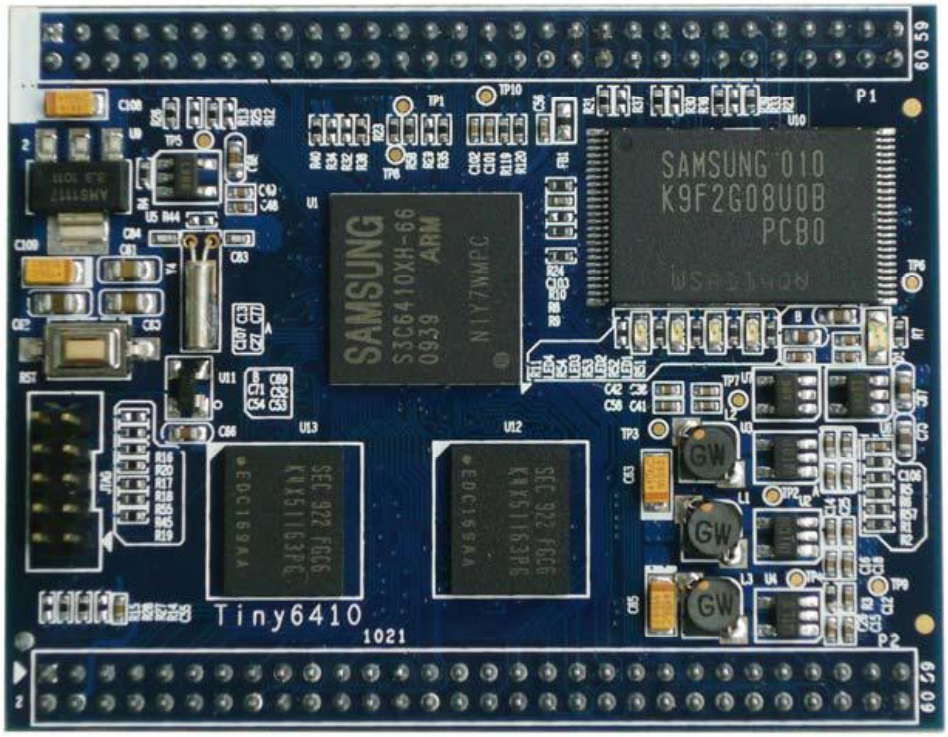
S3C6410-TFA Brush Guide



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Chapter SD card boot disk production

Completely blank SD card can not be directly started 6410 development board, you must first use of special programming on the PC software the BIOS (also called bootloader) can only be written to the SD card, and write the BIOS is not in seen directly on the computer.Samsung has provided this programming process: IROM_SD_Fusing_tool.exe, you can find it in the CD-ROM source code, most of 6410 development board are currently using this software, but the programming software has many limitations and insecurity Therefore, we also developed a more powerful and safer SD-Flasher.exe, in this to make a simple comparison:

Compare items	IROM_SD_Fusing_tool.exe	SD-Flasher.exe
Produced	Samsung	Pardazesh Sabz
Operating platform WindowsXP/Vista/Windows7	only WindowsXP	can support
Type of SD card support	For ordinary cards and high-speed cards, there are two versions, confusing and inefficient	Card and also supports high-speed card, uniform, efficient
Automatically scan the SD card	Do not support, need to manually select , likely to cause damage tothe host mistakenly selected as the hard disk so the data	Support, more secure
Batch programming	Do not support, you can only program aSD card	Support by connecting card reader , you can batch programming
Programming mode the programmer is forced firstpartition)	Mandatory programming	In WindowsXP, In Vista/Windows7, for the safety of programming (you must
Disk partitioning (see Note 1)	Not supported	Support (required for the Vista/Windows7system)

Note 1: Generally the market to buy the SD card to FAT32 format overall, if the card is stored in a lot of data, programming may be forced unwittingly destroy the data; consider this reason, we Vista/Winows7 in first automatic segmentation as an ordinary SD card FAT32 format and free form area (accounting for 130M) in two parts, the programming software will be based on volume name as a symbol, not the bootloader programmed into the format area, so as not to undermine the common area in the FAT32 format the data.

In fact, Vista/Windows7 the security system itself is high, the average user is not forced on the system programming in Vista/Windows7 SD card, so you must first split to write; the other hand, in view of the user may use WindowsXP do not want to be bothered to upgrade to Windows7, according to some online survey data, which still accounts for a large number of people, the "troublesome" also shows that this part of the users are hoping to get everything, so we do not use in WindowsXP "first split, and then programmed "This safer practice, but according to the habits, uses, and Samsung as" mandatory programming "model.

1.1 programming BIOS to the SD card

1.1.1 BIOS Profile

- U-boot

Samsung provides a system for the 6410 with USB download function U-boot, on this basis, we enhance and improve its functionality, and put it out completely open source, embedded enthusiasts for the majority of study and research use, the main Features are as follows:

a. Increase the download menu, similar to the USB download menu Superboot

2. Increased the SD card boot configuration

3. Support for direct download programming yaffs2 file system image

4. Support programming WindowsCE BootLoader of Nboot

5. Support the function of the image programming WindowsCE

6. Support for programming single-file image files, the program is commonly referred to as bare metal

7. Support the return to original shell

Note: most of the claims completely open the Bootloader 6410 development board, are also provided from the Samsung U-boot from some minor changes, all the open source U-boot are currently unable to be programmed into the SDHC card (more than 2G high-capacity SD cards) to use.

- Superboot

In addition to fully open source U-boot, we have designed a feature for business users powerful Superboot, it needs to write to the SD card to use burnt on its USB download function, if you used S3C2440-FA, then S3C6410-TFAdevelopment board, you will be handy, because their menus and commands are almost identical, you do not even have to re-install the USB driver and dnw download software to download.

Of course, Superboot also supports the more powerful and easy to use SD card to install or run the system directly, so you simply modify the configuration file, without PC, of course, no USB and dnw, you can fast and simple programming or run a variety of systems, for those who like to go out to do presentations, training and teaching, or the mass of people, are very useful because it only an SD card on it.

Also, do not worry you are using WindowsXP, or Vista, or Windows7, and even 64-bit versions Windows7, we provide SD-Flasher application can run unimpeded use; you do not have to worry about you using a small-capacity SD card, or high-speed large-capacity SDHC cards, Superboot Andhra they can.

Be noted that, Superboot by a Pardazesh Sabz well developed, we do not provide its source code, any business or individual can use it for free.

For each common on the 6410 version of the Bootloader, there is a simple comparison list:

Compare items	Superboot	U-Boot	U-Boot
Improved by the designer or transplant			Other manufacturers
Download easy to use menu	Support	Support	Some support
Automatic identification 128M/256M DDR RAM	Support	Not supported	Not supported
Programming the memory capacity is greater than the image file	Support	Not supported	Not supported
USB download StepLoader, such as Nboot	Support	Support	Support
USB download the Linux kernel	Support	Support	Support
USB Download Yaffs2 file system image	Support	Support	Some support
USB Download UBIFS file system image	Support	Not supported	Not supported
(Usually with Android system)	No, it does not support	No, it does not support	Support
USB Download EBOOT.nb0	Support	Not supported	Not supported
USB Download image NK.bin WindowsCE	No, it does not support	Support	Not supported
USB Download image NK.nb0 WindowsCE	Support (use bmp files directly without conversion)	Not supported	Some can support, but need to manually convert
USB Download WindowsCE boot image	Support	Support	Support
USB download application programming bare metal	Support	Not supported	Not supported
USB to download the program into memory to run bare-metal	Support	Support	Support
Startup parameter settings	Support	Support	Support
2G SD card within the ordinary	Support	Not supported	Not supported
High-speed large-capacity SD card (FAT32 format)	Support	Not supported	Not supported
SD cards and other offline programming StepLoader as Nboot	Support	Not supported	Not supported
SD card off-line programming Linux kernel	Support	Not supported	Not supported
Offline programming Yaffs2 SD card image	Support	Not supported	Not supported
Offline programming UBIFS image SD card	Support	Not supported	Not supported
(Usually with Android system)	Support (use bmp files directly without conversion)	Not supported	Not supported
SD card image NK.bin offline programming WindowsCE	Support	Not supported	Not supported
SD card boot image offline programming WindowsCE	Support	Not supported	Not supported

SD card offline programming bare metal process	Support	Not supported	Not supported
SD card directly to the whole system running Linux	Support	Not supported	Not supported
SD card directly to the whole system running WindowsCE	Support	Not supported	Not supported
SD card to run Ubuntu directly to system-wide	Support	Not supported	Not supported
SD fast read and programming system (see Note 1)			

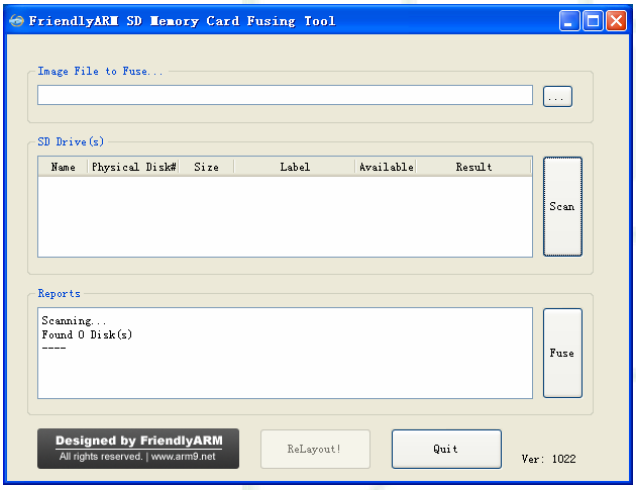
Note 1: Because the better skill, we program the system via SD card, unparalleled speed, up to 1.8MB / s

1.1.1 On WindowsXP programming BIOS

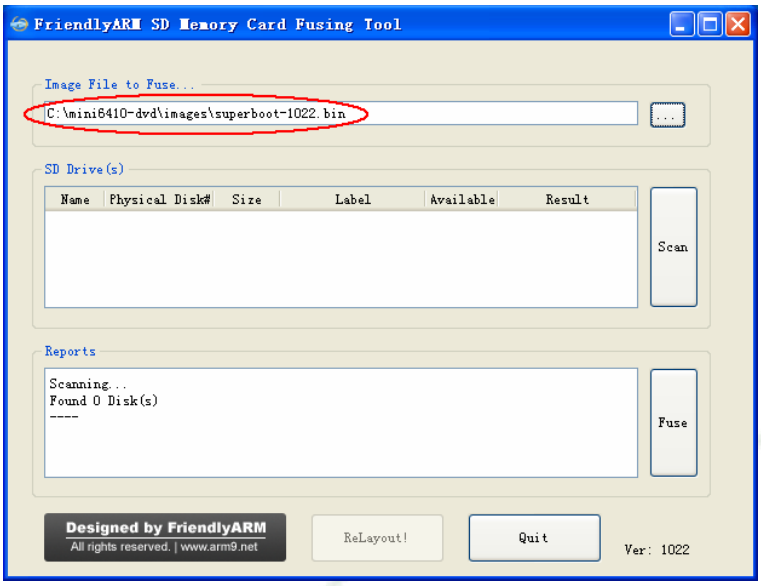
Note: Several users have some of the notebook comes with an SD card reader not correctly programmed, we have not encountered such a situation, it can not know the reasons, in this case, you can try using an ordinary USB card reader test.

In addition, SD-Flasher.exe will split 130M space as a blank area, so there is less than 256M SD card is not used, we recommend using at least 4G SD card, copy the installation files later because of relatively large.

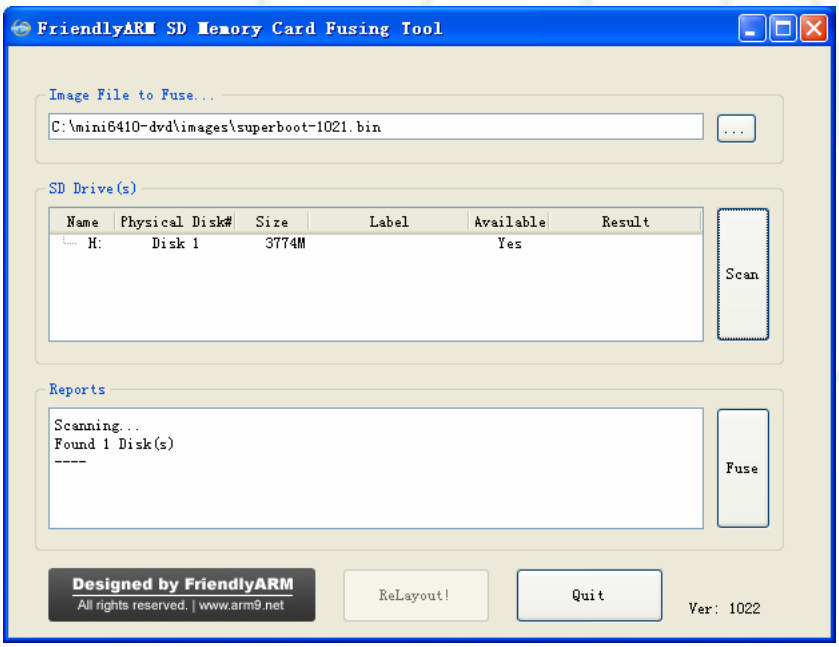
Step1: Open the CD \ tools \ of SD-Flasher.exe programming software, as shown, Note that the software "ReLayout" button is invalid, because we deliberately in the WindowsXP system, turn off this feature.



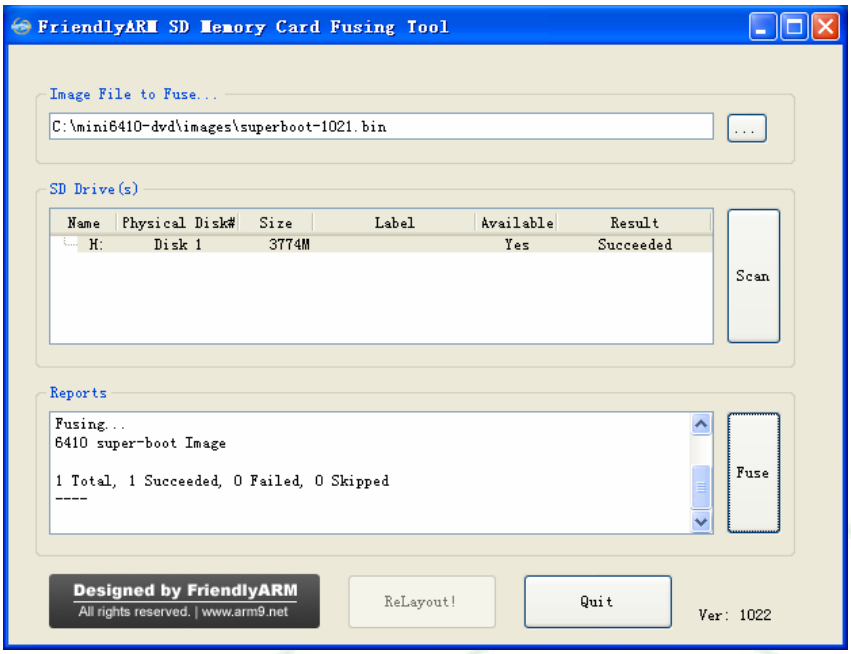
Step2: click the button to be programmed to find the superboot, as shown in Figure



(3) to FAT32-formatted SD card into the notebook of the deck, you can use an ordinary USB card reader to connect the PC, ready 点 "Scan", find the SD card will be listed, as shown in Figure



(4) and then point "Fuse", superboot will be programmed into the SD card.



Superboot is written SD card can not see, how to detect it?Very simple, the SD card into the development board, and the development board switch S2 is set to "SDBOOT" mode, the boot, you can see the board LED1 flashes in a non-stop, which has been running instructions Superboot the.

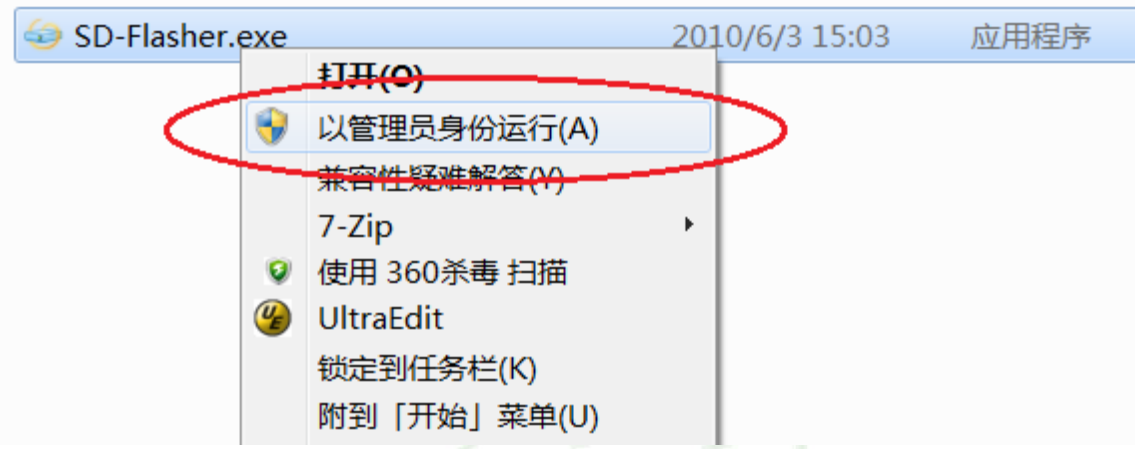
If you do not see LED1 flashing, or serial port and no output, indicating that no write is successful.Please for a genuine SD card, or programmed using a USB card reader and then try USB card reader was also encountered examples of successful programming, but this special case very little.

1.1.2 Programming the BIOS based on Windows7

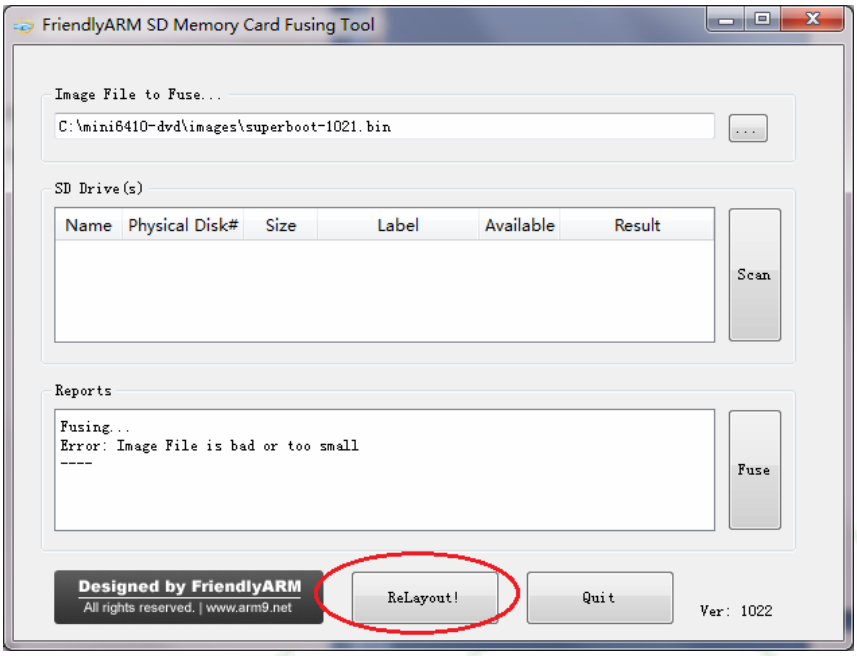
Note: Several users have some of the notebook comes with an SD card reader not correctly programmed, we have not encountered such a situation, it can not know the reasons, in this case, you can try using an ordinary USB card reader test.

In addition, SD-Flasher.exe will split 130M space as a blank area, so there is less than 256M SD card is not used, we recommend using at least 4G SD card, copy the installation files later because of relatively large (1.5GB)

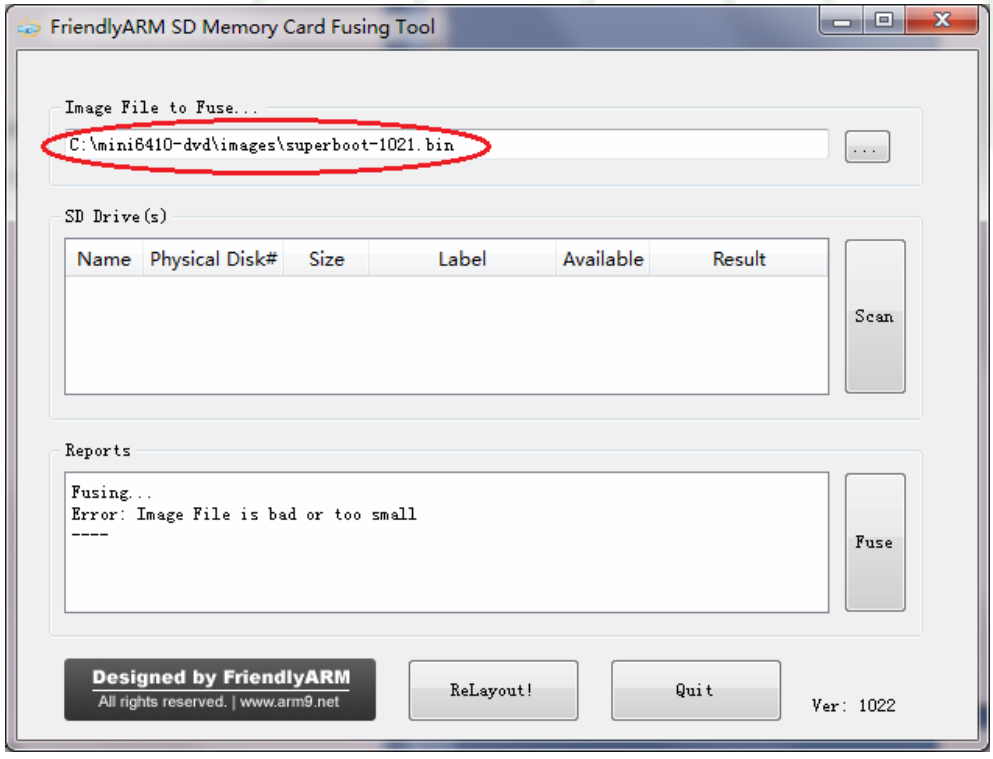
Step1: Open the CD \ tools \ of SD-Flasher.exe programming software, please note that you need an administrator to open the software because as shown in Figure



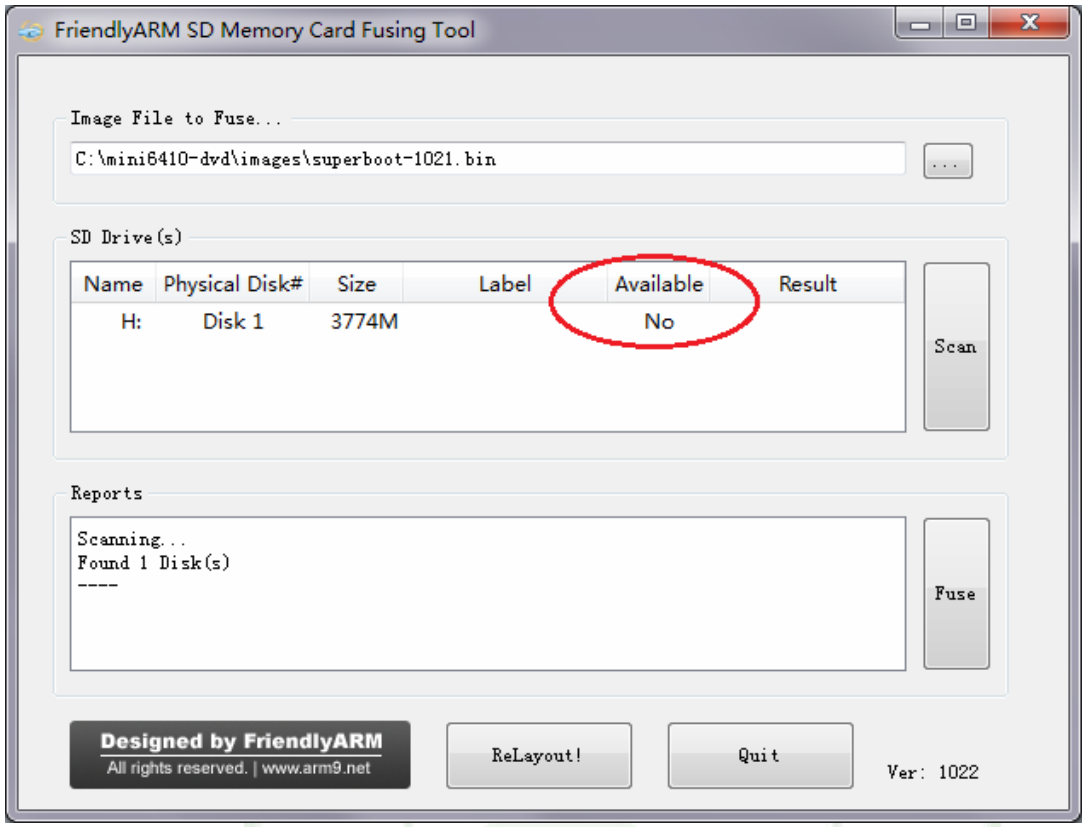
Opens, as shown below, please note that at this time software "ReLayout" button is valid, we will use it to split the SD card so that you can safely read and write.



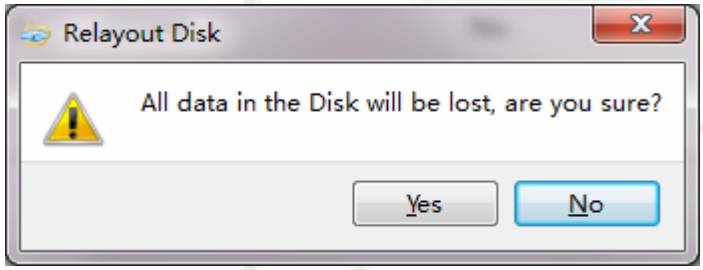
Step2: click the button to be programmed to find the superboot, as shown in Figure



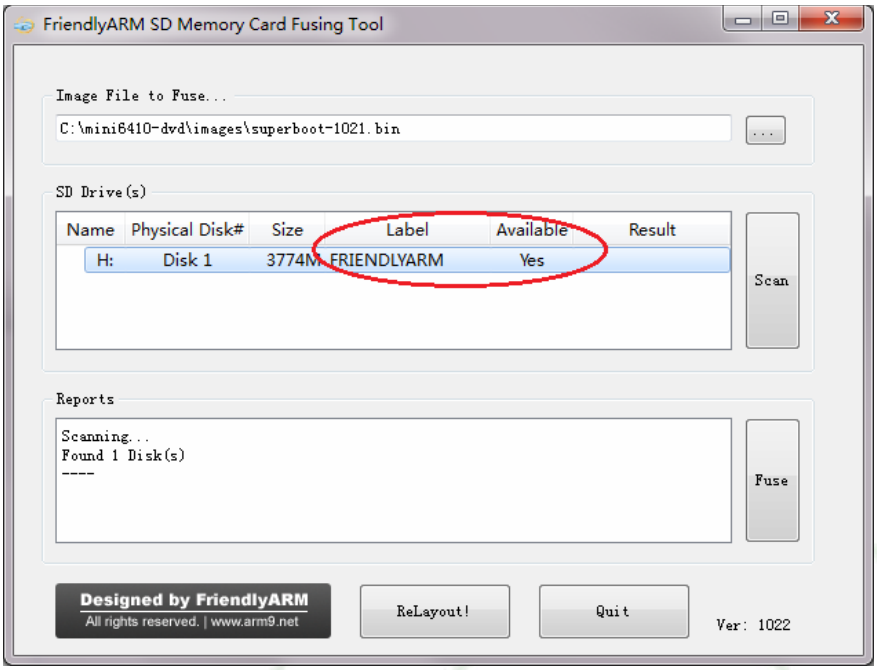
Step3: to the FAT32 format SD card into the notebook of the deck, you can use an ordinary USB card reader connected PC, be sure to back up data on the card, point "Scan", find the SD card will be listed shown, you can see the SD card is not burned at this time to write (at the red circle)



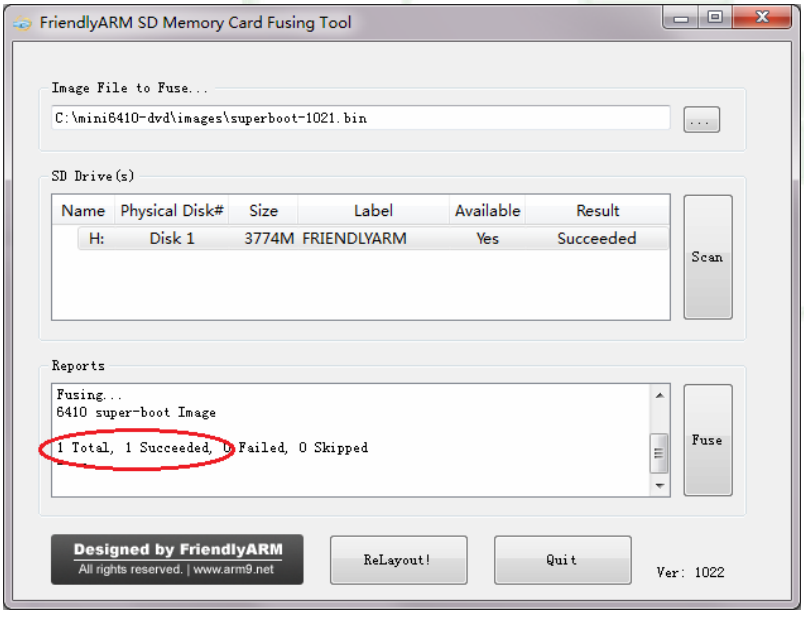
Step4: then point "ReLayout", will pop up a prompt box, as shown, suggesting that all of your SD card data will be lost, points "Yes", start the automatic segmentation, which requires a little later on.



Division is completed, return to SD-Flasher main interface, then re-point "Scan",



Step5: Point "Fuse", superboot will be securely programmed into the SD card in the plain area, as you can in WindowsXP programming card, FAT32 does not have to worry about the data in the region were destroyed.



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If you do not see LED1 flashing, or serial port and no output, indicating that no write is successful.Please for a genuine

SD card, or try using a USB card reader and then burning, USB card reader was also encountered examples of successful programming, but this special case very little.

1.2 Experience fast to install, update, and run system restore

When all system files are ready, you can experience the speed of installation or running the system, the following is the detailed steps. (The following is based 4.3 "package, if you use other LCD set, the following steps may be different, your own transfer order).

1.2.1 Quick Installation WindowsCE system

Description: Development board factory built-in system for Linux, in order to prove we do update the system, specifically as it is now installed WindowsCE 6, in a later step, you can put it back to Linux, please do not worry.

Step1: the CD in the "images" folder to the SD card, double-click to open "images \ Pardazeshsabs.ini" file, find the "OS = Linux", and to "OS = CE6", save the changes and remove the SD card into the development board.

Note: Here is the entire "images" folder to the SD card's root directory, copy the contents of the SD card after something like this:

Step2: the development board switch S2 is set to "SDBOOT", and insert the SD card

Step3: Hold your breath, the power is turned, then you can hear on the development board buzzer "drop" is heard, while the board began to light up and flash LED4

Step4: listening stopwatch beat sound can be noted LED3, 2,1 one by one began to flicker on, until you hear the buzzer, "bit" or two, all full-frame LED lights, then stop jumping Happy Valley, programming is complete, the system has been illustrated, the whole process less than 20 seconds.

Step5: the development board switch S2 is set to "NAND" start, then reboot the system, you can see WindowsCE

Has been installed.

1.2.2 update for the Android system quickly

Perhaps you are more interested in popular Android, it is also very easy to install, then the above steps, as follows:

Step1: the SD card into your computer, double click on "images \ Pardazeshsabs.ini" file

Step2: find the "OS = CE6", and to "OS = Android", save the changes and remove the SD card into the development board.

Step3: is powered on, the same "drop" soon began, the same "bit" twice over, has been updated, the whole process less than 1 minute.

Step4: the development board switch S2 is set to "NAND" start, then reboot the system you can see the Android has been installed.

Note: If you hear a rapid "bit" sound, or see a parallel four LED flashes, you're probably spelled wrong.

1.2.3 Quick Recovery for Linux

Perhaps you have a little demo Android, it does look very fancy, but as a learning development, which, after all, Linux-based, so, we first return to the classic Linux on it, as follows:

Step1: the SD card into your computer, double click on "images \ Pardazeshsabs.ini" file

Step2: find the "OS = Android", and to "OS = Linux", save the changes and remove the SD card into the development board.

Step3: is powered on, the same "drop" soon began, the same "bit" twice after the update is complete, because we are making Linux includes Qtopia-2.2.0, Qtopia4 and QtE-4.7.0 three graphics system and hard decoding player SMPlayer, so the image files are large, long burning time, the whole process about 1 minute.

Step4: the development board switch S2 is set to "NAND" start, then reboot the system, you can see Linux has been installed, and there has been corrected interface.

Note: If you hear a rapid "bit" sound, or see a parallel four LED flashes, you're probably wrong spelling

1.2.4 In the SD card directly running Ubuntu system (500M)

Note: Because Ubuntu is running will take up more memory, there are two ways to achieve better results:

- To Ubuntu in Nand Flash programming to run, which requires 1GB version of the 6410 platform
- 256M memory using the configuration for the 6410 board, which runs through the SD card will achieve better results
- If you have configured for "256M RAM +1 GB Nand Flash", regardless of programming or run, the effects were the same as above

Performed on the SD card running Ubuntu as follows:

Step1: the SD card into your computer, double click on "images \ Pardazeshsabs.ini" file

Step2: find the "OS = Linux", and to "OS = Ubuntu",; to find the "Action = Install", and changed to "Action = Run"; save the changes and remove the SD card into the development board.

Step3: is powered on, now you can play with Ubuntu, you can modify and save the settings inside, they do not lose, unless your card is lost; they generally do not destroy the contents of NAND inside, unless there is special software is designed for NAND operation.

Note: If you hear a rapid "bit" sound, or see a parallel four LED flashes, you're probably wrong spelling

1.2.5 on the configuration file Pardazesh Sabz.ini

All the above steps with them too cool too simple, this is thanks to the powerful Superboot the gift, now you can learn some more, which is the key to the configuration file "Pardazesh Sabz.ini", it follows :

```
Pardazesh Sabz.ini configuration file contents

# This line cannot be removed. By Pardazesh Sabz (www.Esys.ir)

# Notice: for the image filename include "ram128", "ram256" or "-s"

#

# "Ram128" means it is for the board with 128M RAM

# "Ram256" means it is for the board with 256M RAM

CheckOneButton = No

Action = install

OS = Linux

VerifyNandWrite = No

StatusType = Beeper | LED

CheckOneButton = No

Action = install

OS = linux

VerifyNandWrite = No
```

```
StatusType = Beeper | LED

##################### Linux ##################### Linux-BootLoader = Linux/u- boot_nand-
ram128.bin Linux-Kernel = Linux/zImage_n43

Linux-CommandLine = root = / dev/mtdblock2 rootfstype = yaffs2 init = / linuxrc console = ttySAC0, 115200

Linux-RootFs-InstallImage = Linux/rootfs_qtopia_qt4.img

Linux-RootFs-RunImage = Linux/rootfs_qtopia_qt4.ext3

##################### WindowsCE6 ################## WindowsCE6-Bootloader = WindowsCE6 \
NBOOT_N43-RAM256.nb0

WindowsCE6-BootLogo = WindowsCE6 \ bootlogo.bmp

WindowsCE6-InstallImage = WindowsCE6 \ NK_n43.bin

WindowsCE6-RunImage = WindowsCE6 \ NK_n43.bin

##################### Android ##################### Android-BootLoader = Android/u-boot_nand-
ram128.bin Android-Kernel = Android/azImage_n43

Android-CommandLine = root = ubi0: Pardazeshsabs-root ubi.mtd = 2 rootfstype = ubifs init = / linuxrc console =
ttySAC0, 115200

Android-RootFs-InstallImage = Android / rootfs_android.ubi

Android-RootFs-RunImage = Android/rootfs_android.ext3

##################### Ubuntu ##################### Ubuntu-BootLoader = Ubuntu / u-boot_nand -
ram128.bin Ubuntu-Kernel = Ubuntu/uzImage_n43

Ubuntu-CommandLine = root = ubi0: Pardazeshsabs-root ubi.mtd = 2 rootfstype = ubifs init = / linuxrc console =
ttySAC0, 115200

Ubuntu-RootFs-InstallImage = Ubuntu / rootfs_ubuntu.ubi

Ubuntu-RootFs-RunImage = Ubuntu/rootfs_ubuntu.ext3

################ UserBin part ################## UserBin-Image = WindowsCE/NK.nb0

userBin-StartAddress = 50100000
```

Above represent the meaning of each name is obvious, I believe most people can understand, if you do not understand, you can see the detailed comments below:

Defined term (not case sensitive)	Note: different configurations of the package, may have different default settings
CheckOneButton	When to "yes", you need to press the power on or reset the board before any of the steps behind the key before it is implemented;
Action	When the "No", the boot or reset automatically after the back steps when programming the general volume can be set to "No"
OS	Default is "No"
VerifyNandWrite	Set the action to perform, you can: Install / Run / Null, representing:

StatusType	Install - Install to Nand Flash;
Custom installation or running the Linux file system used by the image or parameters may include the directory, the directory can be split symbol "/" or "\"	
Linux-BootLoader	Specify the Linux system image file name with the Bootloader Such as: Linux-BootLoader = Linux/u-boot_nand-ram128.bin (default)
Linux-Kernel	Specify the Linux kernel file system image with the name Such as: Linux-BootLoader = Linux/zImage_n43 (default)
Linux-CommandLine	Setting Linux boot parameters, for different ways to start or programming needed to set different parameters. When yaffs2 file system, the recommended parameters (default): Linux-CommandLine = root = / dev/mtdblock2 rootfstype = yaffs2 init = / linuxrc console = ttySAC0, 115200 When UBIFS file system, the recommended parameters are: Linux-CommandLine = root = ubi0: Pardazeshsabs-root ubi.mtd = 2 rootfstype = ubifs init = / linuxrc console = ttySAC0, 115200 When you need to run directly in SD, you can keep the default parameters
Linux-RootFs-InstallImage	Specify the file used to install Linux system image name, you can yaffs2/UBIFS format. We define: "Img" at the end of the representatives of yaffs2 image file format; "Ubi" at the end of representatives UBIFS file format; "Ext3" at the end of the image file on behalf of EXT3 format (only run from the SD card) Such as: Linux-RootFs-RunImage = Linux/root-qtopia-qt4.img (default)
Linux-RootFs-RunImage	Designated to run Linux from the SD card file system used by image name. Such as: Linux-RootFs-RunImage = Linux/root-qtopia-qt4.ext3 (default)
Custom installation or running WindowsCE6 image files used can include directory, the directorycan split the symbol "/" or "\"	
WindowsCE6-Bootloader	Specify WindowsCE6 system file image name with the Bootloader Such as: WindowsCE6 \ NBOOT_N43-RAM128.nb0 (default)
WindowsCE6-BootLogo	Specify WindowsCE6 startup screen the file name used, will be programmed into the Nand Flash, the file is an ordinary bmp format, can be up to 2M Such as: WindowsCE6-BootLogo = WinowsCE6 \ BootLogo.bmp (default)
WindowsCE6-InstallImage	Specify the installation WindowsCE6 with kernel image file name, you need to NK.bin format Such as: WindowsCE6-InstallImage = WindowsCE6 \ NK_N43-i.bin (default)
WindowsCE6-RunImage	Specifies the run from the SD card when used in WindowsCE file system image, you need to Nk.bin format. Such as: WindowsCE6-RunImage = WindowsCE6 \ NK_N43-i.bin (default)
Custom installation or running the Ubuntu image files used can include directory, the directorycan split the symbol "/" or "\"	
Note: You can use the format with the compression characteristics of the Ubuntu UBIFS to 1GBNand Flash programming to run; can also use the ext3 file system image format directly to an SD card to run.	
Ubuntu-BootLoader	Ubuntu system specified by the image file name with the Bootloader Such as: Linux-BootLoader = Linux/u-boot_nand-ram128.bin (default)
Ubuntu-Kernel	Specifies the Ubuntu system with kernel image file name Such as: Ubuntu-BootLoader = Ubuntu/uzImage_N43 (default)
Ubuntu-CommandLine	Ubuntu startup parameter settings for different start-up mode, need to set different parameters. When UBIFS file system, the recommended parameters are: Linux-CommandLine = root = ubi0: Pardazeshsabs-root ubi.mtd = 2 rootfstype

	= ubifs init = / linuxrc console = ttySAC0, 115200 (default) ▯ When you need to run directly in SD, you can keep the default parameters
Ubuntu-RootFs-RunImage	Designated to run Ubuntu from the SD card file system image used in the name of the file size is generally fixed Such as: Ubuntu-RootFs-RunImage = Ubuntu/rootfs_ubuntu.ext3 (default)
Custom installation or running the Ubuntu image files used can include directory, the directorycan split the symbol "/" or "\"	
Note: You can use the format with the compression characteristics of the Ubuntu UBIFS to 1GBNand Flash programming to run; can also use the ext3 file system image format directly to an SD card to run.	
Ubuntu-BootLoader	Ubuntu system specified by the image file name with the Bootloader Such as: Linux-BootLoader = Linux/u-boot_nand-ram128.bin (default)
Ubuntu-Kernel	Specifies the Ubuntu system with kernel image file name Such as: Ubuntu-BootLoader = Ubuntu/uzImage_N43 (default)
Ubuntu-CommandLine	Ubuntu startup parameter settings for different start-up mode, need to set different parameters. ▯ When UBIFS file system, the recommended parameters are: Linux-CommandLine = root = ubi0: Pardazeshsabs-root ubi.mtd = 2 rootfstype = ubifs init = / linuxrc console = ttySAC0, 115200 (default) ▯ When you need to run directly in SD, you can keep the default parameters
Ubuntu-RootFs-RunImage	Designated to run Ubuntu from the SD card file system image used in the name of the file size is generally fixed Such as: Ubuntu-RootFs-RunImage = Ubuntu/rootfs_ubuntu.ext3 (default)
Custom installation or running Android image files used can include directory, the directory cansplit the symbol "/" or "\"	
Android-BootLoader	Designated by the Android system image file name with the Bootloader Such as: Android-BootLoader = Android / u-boot_nand-ram128.bin (default)
Android-Kernel	Specifies the Ubuntu system with kernel image file name Such as: Android-BootLoader = Android/azImage_N43 (default)
Android-CommandLine	Android set start parameters for different start-up or programming mode, you need to set different parameters. ▯ When yaffs2 file system, the recommended parameters (default): Android-CommandLine = root = / dev/mtdblock2 rootfstype = yaffs2 init = / linuxrc console = ttySAC0, 115200 ▯ When UBIFS file system, the recommended parameters are: Android-CommandLine = root = ubi0: Pardazeshsabs-root ubi.mtd = 2 rootfstype = ubifs init = / linuxrc console = ttySAC0, 115200 ▯ When you need to run directly in SD, you can keep the default parameters
Android-RootFs-InstallImage	Specify the file used to install Android system image name, you can yaffs2/UBIFS format. We define: "Img" at the end of the representatives of yaffs2 image file format; "Ubi" at the end of representatives UBIFS file format; "Ext3" at the end of the image file on behalf of EXT3 format (only run from the SD card) Such as: Android-RootFs-InstallImage = Android / rootfs_android.ubi (default)
Android-RootFs-RunImage	Designated to run Ubuntu from the SD card file system image used in the name of the file size is generally fixed Such as: Android-RootFs-RunImage = Android/rootfs_android.ext3 default)
Custom installation or running single-file system (bare metal process) image files used can include directory, the directory can split the symbol "/" or "\"	
Note: Generally you need to specify a single file system implementation of the memory address,such as NK.nb0 is a single file system	

UserBin-Image	Specify the installation or run a single file system image file name, you can bin, nb0 other formats; When Action is defined as the "Install", it will be programmed into the Nand Flash's Block0 place to start.
UserBin-StartAddress	When Action is defined as "Run" when he was designated the SD card in a single file system image will be loaded into the memory address specified by the Executive

Description:

1. You can use the "#" character as a comment at the beginning, Superboot will not implement the "#" followed by the contents; In fact, you can use any key other than the comment string without "#", it is just a just kind of a sign reading habits.

2. In order to prevent unauthorized copying Superboot procedures used, we require that the first line of the configuration file can not be changed, can not be deleted, the first line reads:

This line cannot be removed. By Pardazesh Sabz (www.Esys.ir)

Note: The last ")" followed by a space and the other characters can not.

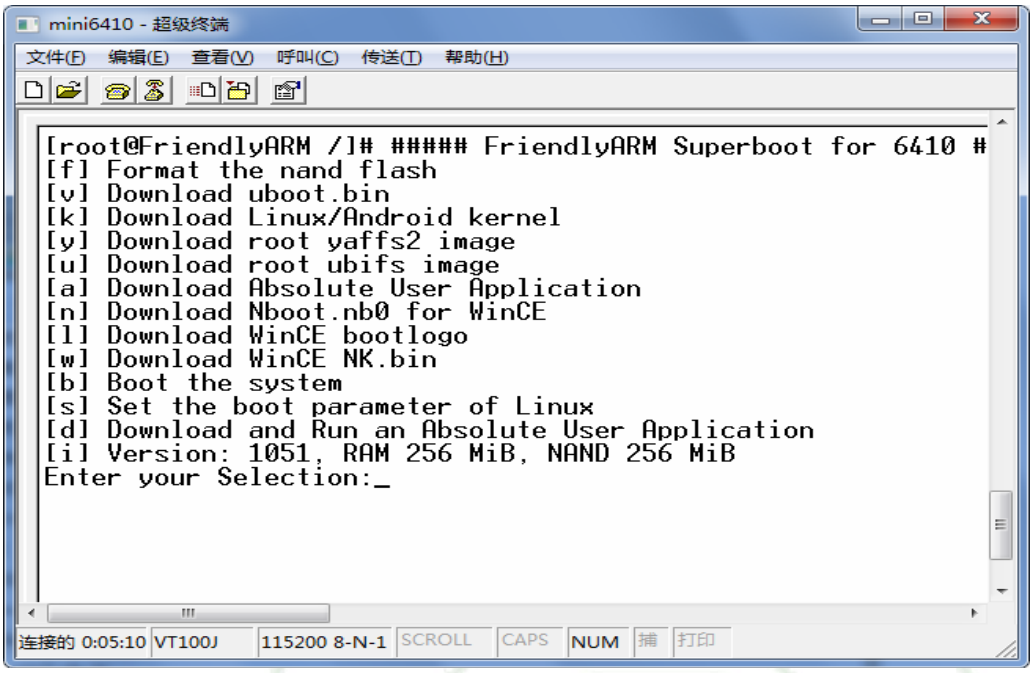
1.3 Superboot Menu Functions

Use Superboot as SD card bootloader start the system, in the following situation can be downloaded into the USB mode:

1. SD card "images \ Pardazeshsabs.ini" configuration file does not exist or the file name is spelled wrong

2. When the configuration file exists, and "CheckOneButtons = Yes", restart the development board will not press any key to enter the USB download mode

At this time there will be a serial port to download the required function menu, while the development board LED1 will stop flashing.Menu as shown below (due to version update, there may be slightly different output, the actual date)



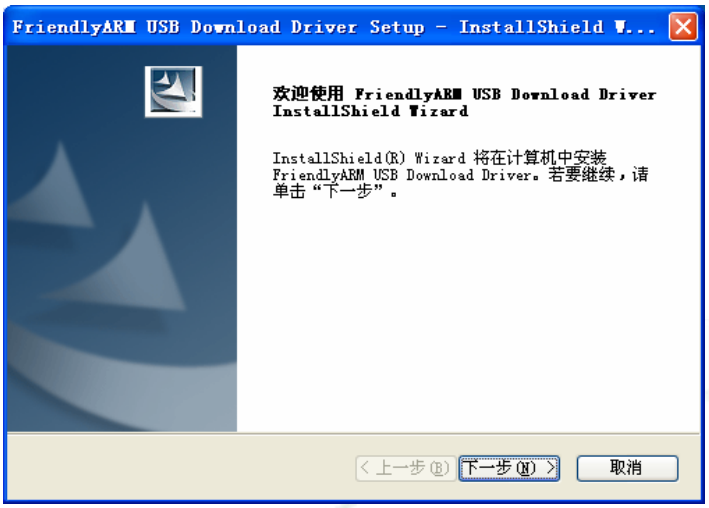
1.3.1 Installing the USB driver download

Note: USB drivers installed here in the BIOS menu mode only useful, it needs to meet the dnw.exe software into Linux or WinCE system is not used to that drive.If you've used the company produced S3C2440-FA/ micro2440, you do not need to reinstall it, because they are downloaded using a USB drive are exactly the same.

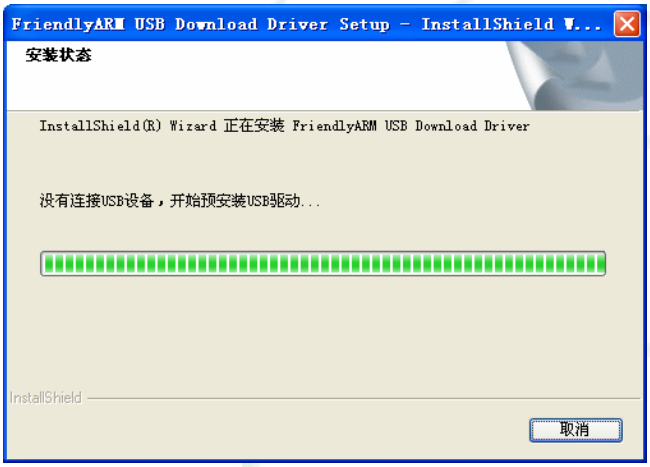
Description: Download the driver does not need to install the USB connection development board, the installation is carried out independently; the driver can also be used to install Windows7 system, but do not support 64-bit version of Windows7

Double click the CD-ROM in the "windows platform tools \ usb download drivers \ Pardazeshsabs USB Download Driver Setup_20090421.exe "installation program, start to install the USB driver download.

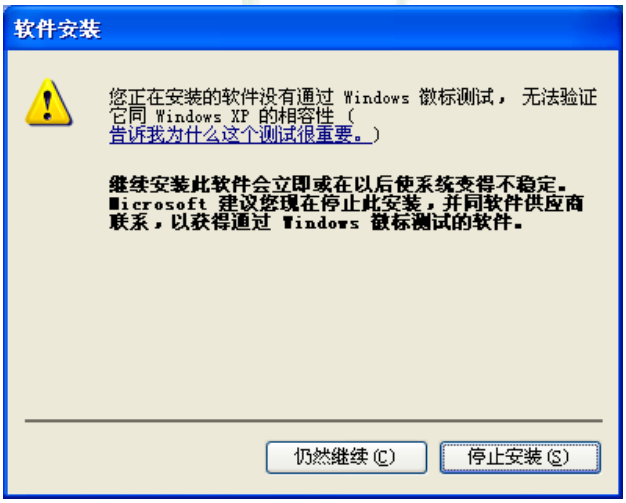
Installation interface appears as shown in Figure:



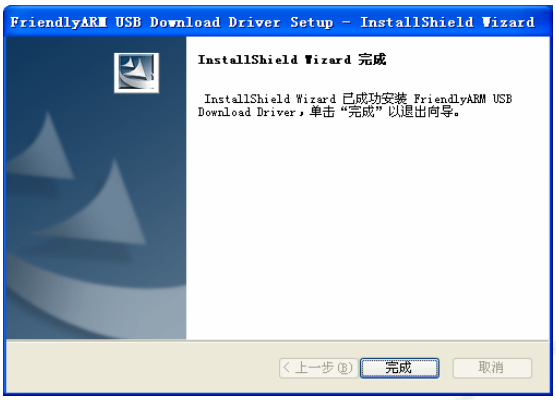
Click "Next" to continue:



At this point a warning message will pop up:



Point "continue", USB driver downloads will soon be installed, as shown:



Here we detect about USB drivers:

First set the DIP switch S2 development board for the SDBOOT start, connect the supplied USB cable and power supply (which can be

Do not have to connect the serial cable).

Turn the power switch S1, the first time if you are using, WindowsXP system will prompt you to find a new USB Equipment, and the emergence of the interface shown in this selection, "No, not (T)", click "Next" to continue.

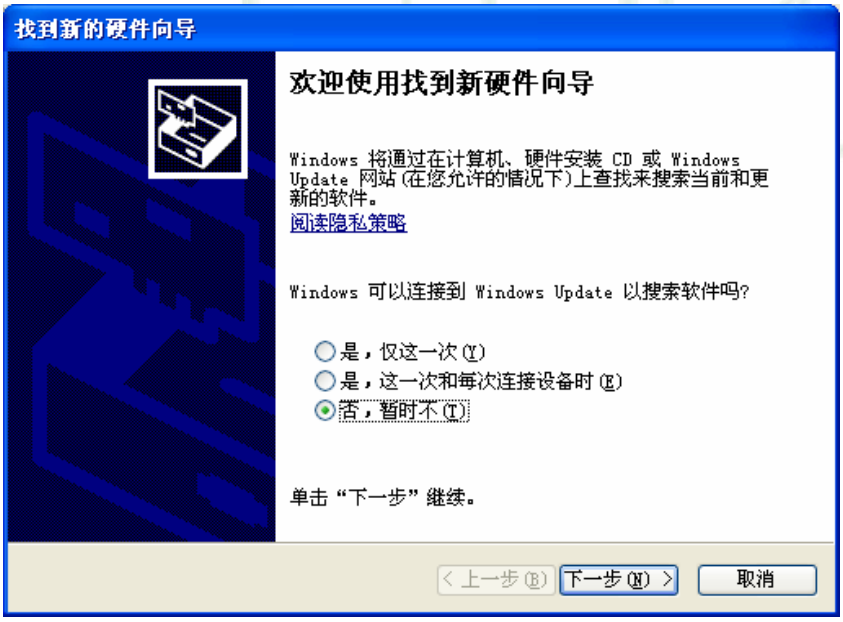
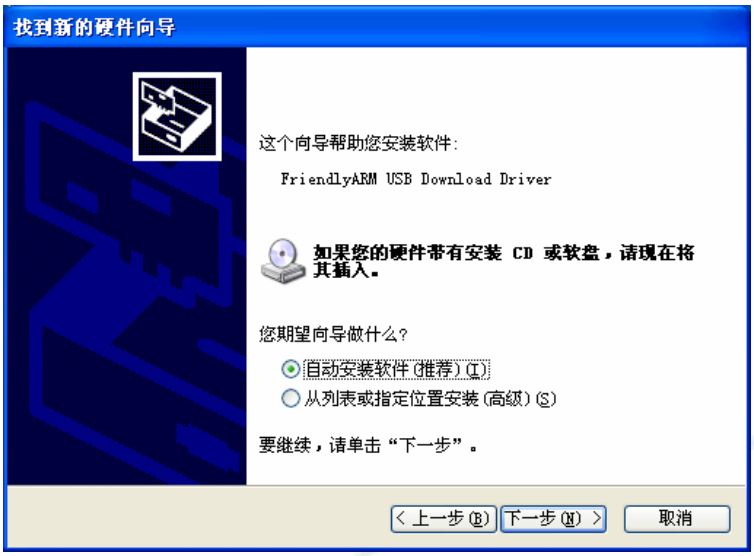
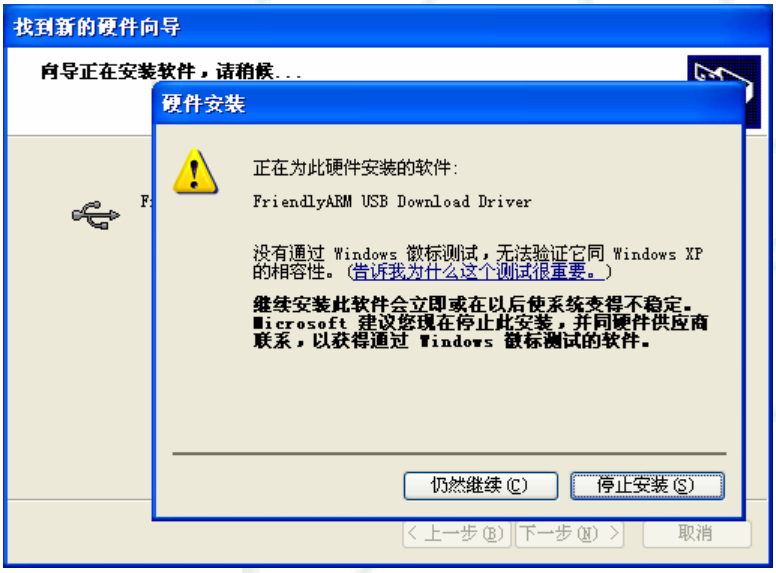


Figure prompt appears, select "Install the software automatically", click "Next" to continue



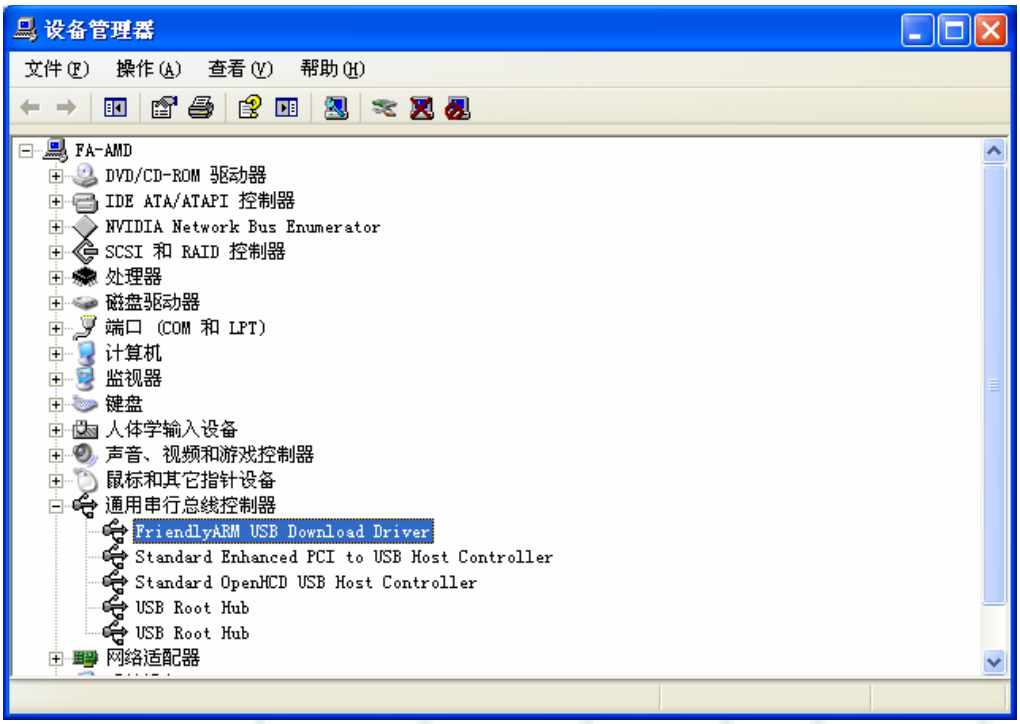
Interface in Figure warning, click "continue."



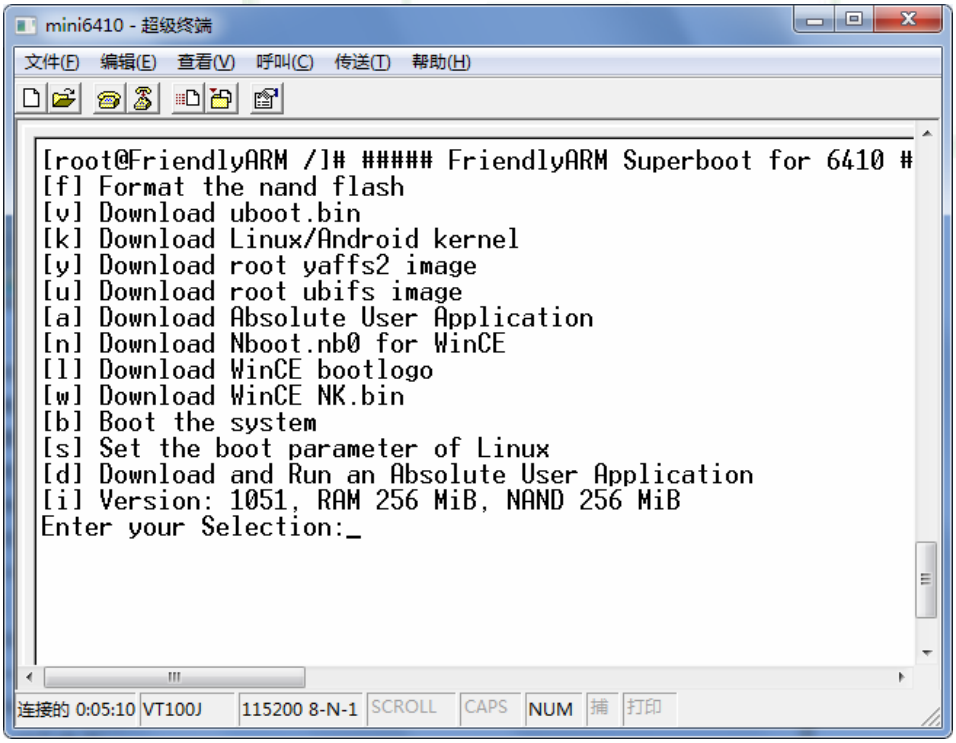
Thus, the first steps in using a USB drive to download it over.

Opens the CD-ROM dnw.exe download software, you can see the USB connection OK, as shown in Figure.

Device Manager on the computer, you can download the driver to see the USB-related information, as shown:



1.3.2 shows the main menu functions



Function [f]: for Nand Flash format, in fact, erase the entire chip Nand Flash.

Function [v]: via USB to download Linux BootLoader to Nand Flash the bootloader partition, such as the U-boot

Function [k]: the Linux kernel via USB to download the kernel to Nand Flash partition function [y]: via USB download yaffs2 Nand Flash file system image to the root partition function [u]: UBIFS file system via a USB download image to Nand Flash the root partition Function [a]: Download the user program via USB to Nand Flash, the general procedures for the bin so that the user single-system image file formats, such as uCos2 procedures or bare metal Function [n]: WinCE via USB to download the boot program Nboot to Nand Flash 的 Block0 function [l]: WinCE start downloading via USB boot Logo (bmp format pictures) function [w]: WinCE distribution image via USB download NK.bin to Nand Flash Function [b]: start the system, if you burn a Linux or Wince, execute the command to start the system will automatically identify the recognition.

Function [s]: set the Linux boot parameters function [d]: Download and run bare-metal process

Function [i]: Superboot version information, and display development board Nand Flash actual size.

Chapter or the operating system to install and update

We have pioneered in the 2440 development board to download and install USB-based embedded operating system, rather 6410 can support boot from the SD card, which means that you can do more interesting, cool things.For example let BootLoader support the FAT32 file system format, so that we can

read directly from the SD card image file, without going through the USB download, install or run off to do a variety of systems.

In the previous section, you may have experienced this type of installation, you can appreciate the genuineness of it very fast, very simple and of course what we can do cooler.

In fact, many users have become accustomed to S3C2440-FA USB download and install, especially when development and testing, it may not need to plug the SD card back and forth, so we are also in the 6410's Superboot retained this feature, it uses the drive and Download the software dnw.exe and S3C2440-FA is exactly the same, let a key to download or install from the USB system begin with.

Note: S3C6410-TFAsoftware and S3C6410-TFA is fully compatible, so the following screenshot in part from S3C6410-TFA User manual, the actual situation due to memory, Flash, etc. are slightly different configuration, no detailed description.

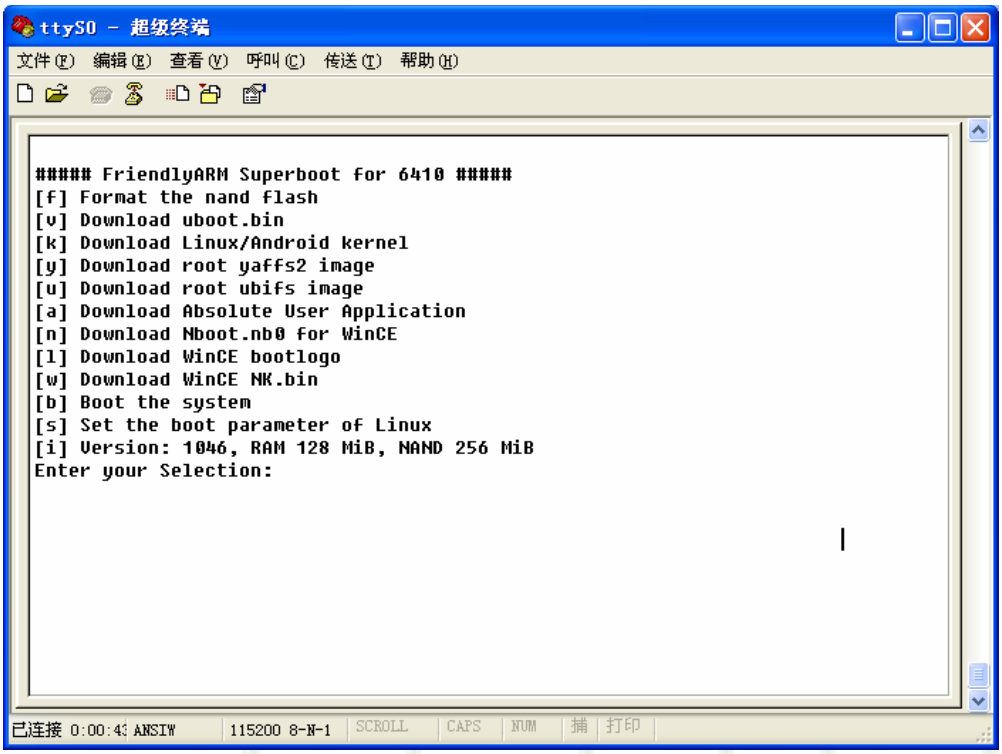
2.1 One-click installation using a USB system

Use Superboot as SD card bootloader start the system, in the following situation can be downloaded into the USB mode:

1. SD card "images \ Pardazeshsabs.ini" configuration file does not exist or the file name is spelled wrong

2. When the configuration file exists, and "CheckOneButtons = Yes", restart the development board will not press any key to enter the USB download mode

At this time there will be a serial port to download the required function menu, while the development board LED1 will stop flashing.Menu as shown below (due to version update, there may be slightly different output, the actual date)



2.1.1 one-click install Linux (yaffs2 or UBIFS format)

Note: This section assumes that you have installed the USB driver, and set the SD to start development board; for version update, the following screenshots may be slightly different from the actual, the actual subject.

Description: Install Linux binary file is located in the required CD images \ Linux directory, the directory has detailed documentation.

Installing Linux system has the following steps:

(1) Nand Flash format, corresponding to the command [f]

(2) Install Bootloader, corresponding to the command [v]

(3) install the kernel file, the corresponding command [k]

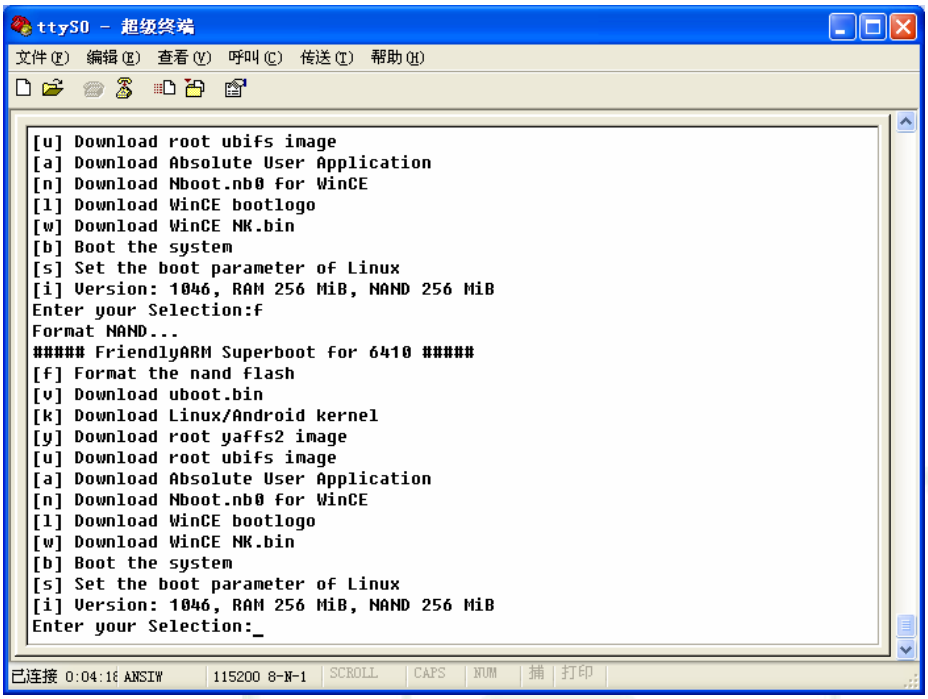
(4) installation of the target file system (yaffs2 or ubifs format), corresponding to the command [y] or [u]

Below the 4.3 "LCD on the package installed Linux system UBIFS format for example, describes in detail the installation steps:

Step1: Format Nand Flash

Tip: Formatting will erase all data inside Nand Flash serial port connected, open the super terminal, electric start on the development board, to enter the BIOS features menu, select No. [f] Nand Flash began to partition, as shown. Note: Some of Nand Flash partition will be prompted to report a bad area, bad area because Superboot will do testing records, so this will not affect the normal use of the board. Tip: common Nand Flash can not guarantee that all sectors are intact, if there is a bad area, they will do the test system

software processing, without affecting the use of the entire software system.Ensure that areas completely bad another type Nand Flash, and order cycle is long, expensive and rarely used the general situation; other brands of Nand Flash is also similar.



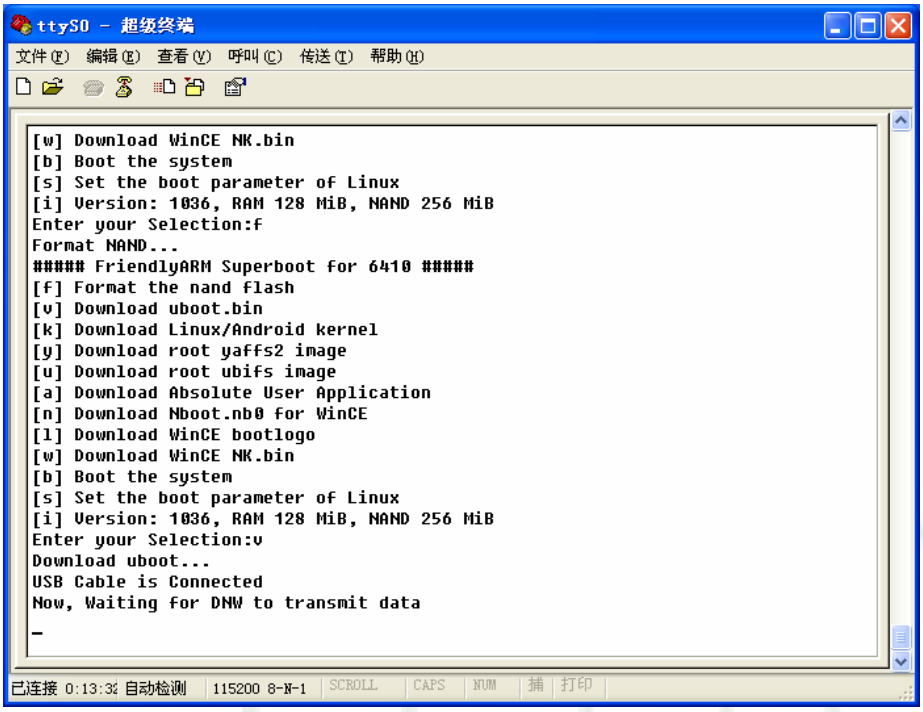
Step2: Install Bootloader

Depending on the development board hardware configuration, we offer a variety of programming u-boot file (source code of the corresponding configuration items):

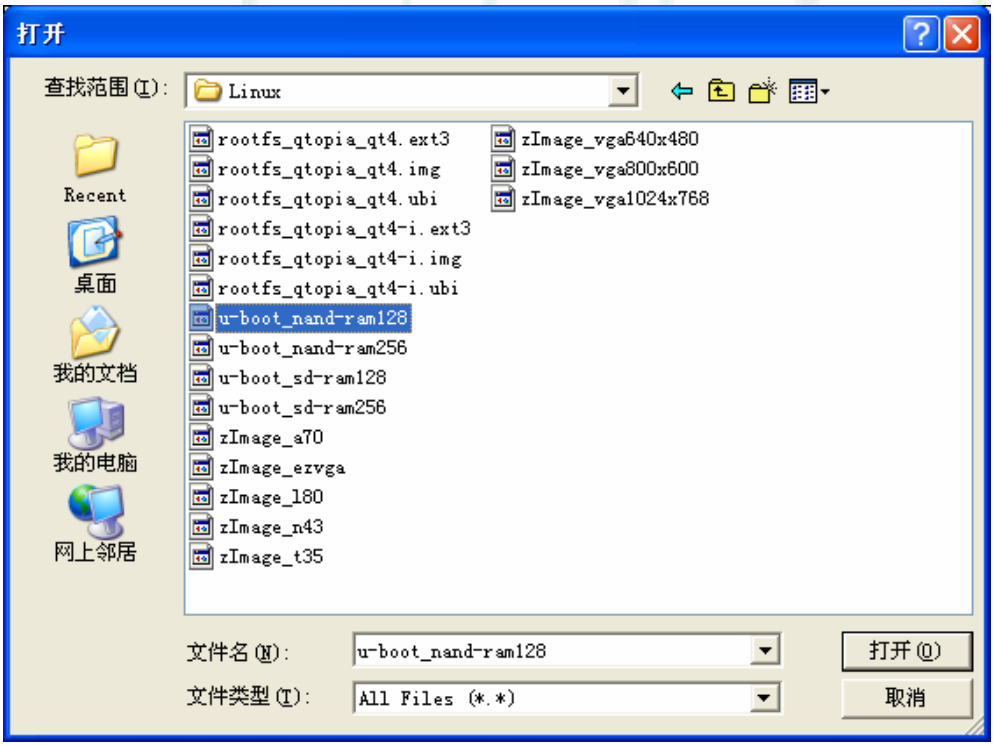
- u-boot_sd-ram128.bin: support SD boot for the configuration of the memory capacity of 128M
- u-boot_sd-ram256.bin: support SD boot for the configuration of the memory capacity of 256M
- u-boot_nand-ram128.bin: NAND boot support for the configuration of the memory capacity of 128M
- u-boot_nand-ram256.bin: NAND boot support for the configuration of the memory capacity of 256M

Bootloader installation specific file here named U-boot_nand-ram128.bin (hereinafter referred to as U-boot.bin), it will be downloaded to a programmer position Nand Flash 的 Block 0, which is the starting position.

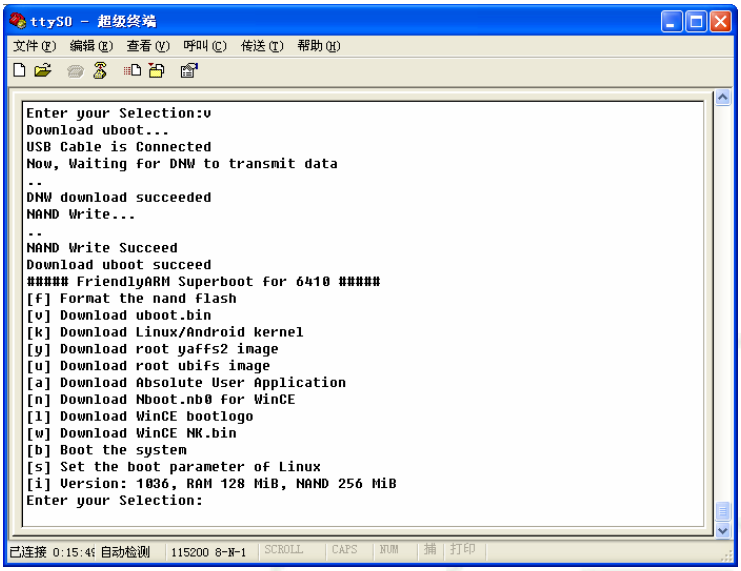
(1) Open DNW program, connect the USB cable, the title bar if the DNW tips [USB: OK], shows USB connection is successful, then under the menu function number [v] to start the download U-boot.bin



(2) Click "USB Port-> Transmit / Restore" option, and select to open the file u-boot.bin (the file is located in the CD-ROM images / Linux directory) to start the download.



(4) the download is complete, U-boot.bin will be automatically burned to write Nand Flash partition, and return to the main menu.

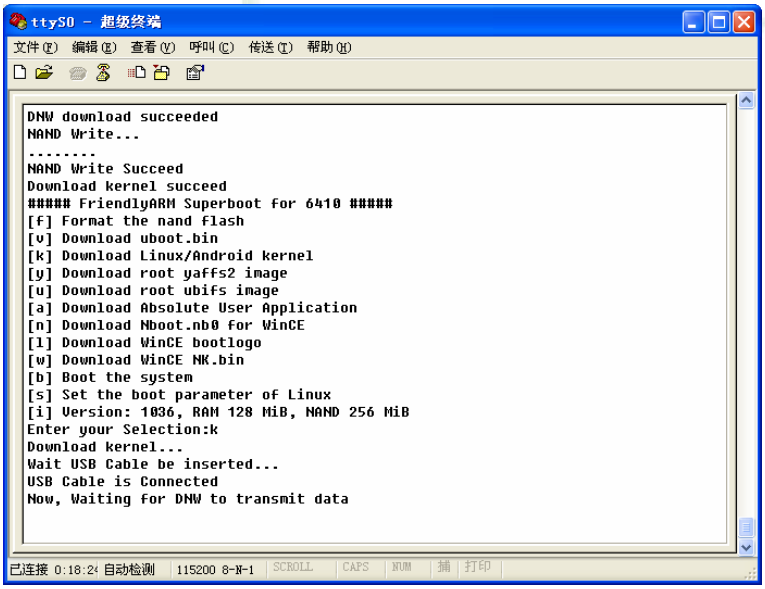


Step3: Install the Linux kernel

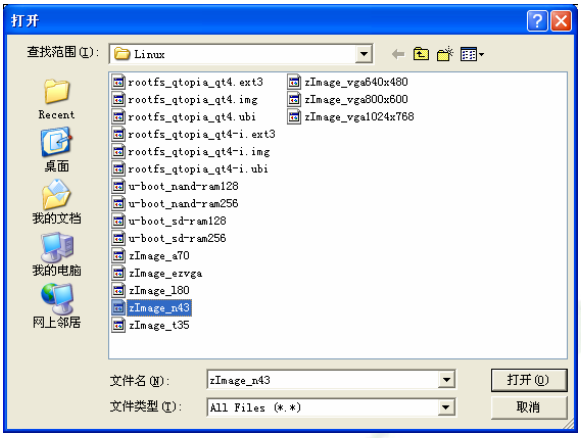
Packages of different LCD models, need to use a different kernel file, in a later step we have referred to as the Linux kernel zImage, the following kernel files for the CD (located in the images / Linux directory) shows that if you use the LCD model is not listed out, follow the "Linux Developer's Guide" in the method of compiling their own production:

- zImage_n43 - for NEC4.3 "LCD, 480x272 resolution
- zImage_a70 - for 7-inch true color screen, a resolution of 800x480
- zImage_VGA1024x768 - for resolution of 1024x768 VGA output module adapter plate

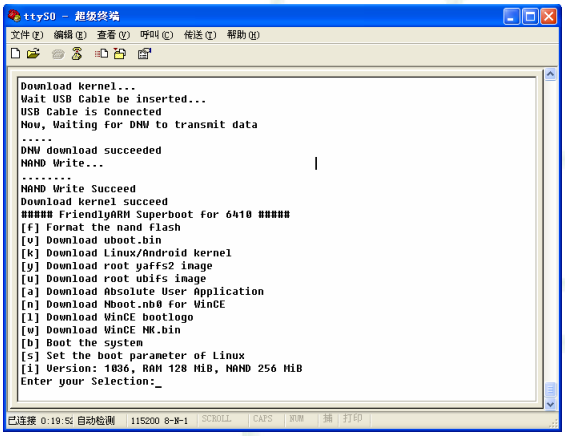
(1) in the BIOS main menu, select the function number [k], began to download the Linux kernel zImage



(2) Click "USB Port-> Transmit" option, and select the file to open the corresponding kernel zImage (the file is located in the CD-ROM images / Linux directory) to start the download.



(3) the download is complete, BIOS will be automatically programmed to Nand Flash partition in the kernel, and return to the main menu, as shown:



Step4: Install the target file system

Description: We provide the target file system contains the Qtopia-2.2.0, Qtopia4 and QtE-4.7.0 SMPlayer three kinds of embedded graphics systems and players, and includes some examples of multimedia files, image files are large.

Superboot support and ubifs yaffs2 two different file system image programming, according to the type of file system to suppress, we are making the following image file, according to their actual situation:

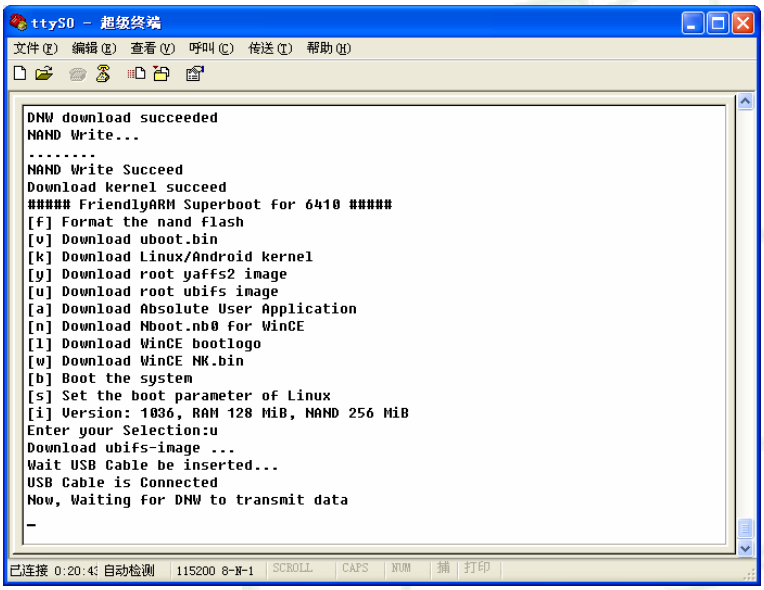
- rootfs_qtopia_qt4.img: automatic identification and support for ARM itself is a touch screen interface, touch or first-line precision, using yaffs2 Suppression of the file system image format, you can use the [y] to Nand Flash programming commands used to run
- rootfs_qtopia_qt4.ubi: automatic identification and support for ARM itself is a touch screen interface, touch or first-line precision, the use of UBIFS Suppression system image file format, you can use [u] to Nand Flash programming commands used to run

- rootfs_qtopia_qt4.ext3: automatic identification and support for ARM itself is a touch screen interface, touch or first-line precision, using EXT3 Suppression of the file system image format can be directly copied to the run using the SD

Following the programmed UBIFS file system image format, for example, introduce the programming steps for programming yaffs2

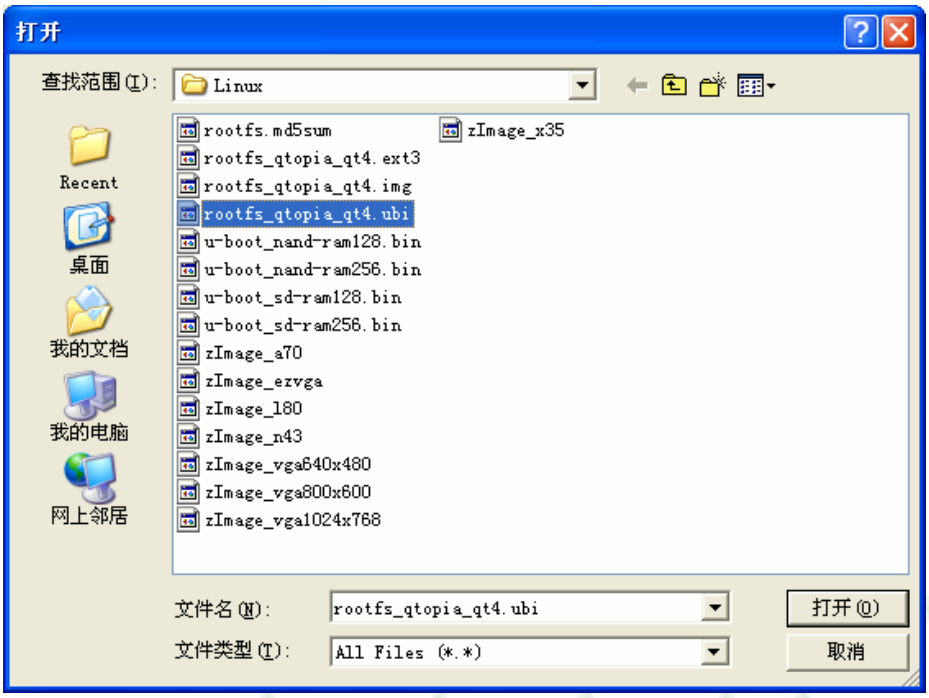
Format the file system, as long as you change about the programming commands and file names on it, not repeat them.

(1) in the BIOS main menu, select the function number [u], start the download files UBIFS root filesystem image

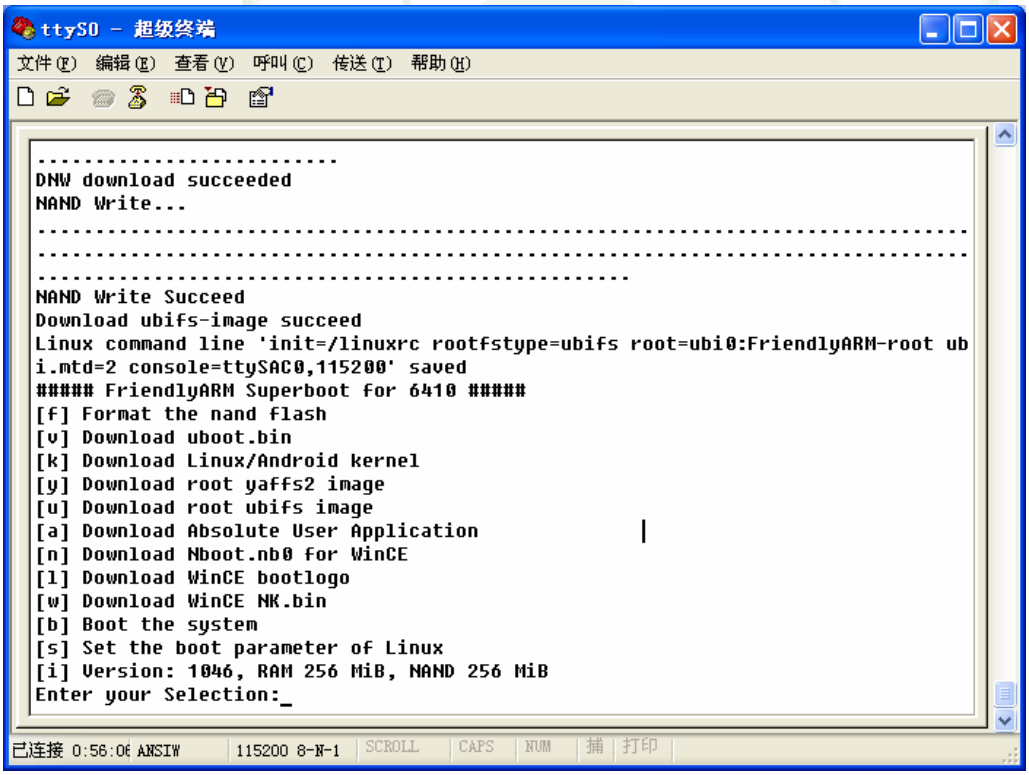


(2) Click "USB Port-> Transmit / Restore" option and select the appropriate file system image to open files

rootfs-qtopia-qt4.ubi (the file is located in the CD-ROM images / Linux directory) to start the download.



(3) the download is complete, BIOS will be automatically programmed in the file system image to Nand Flash partition, but also repair the Linux boot parameters



Change, in order to start the UBIFS system.

Note: the download is complete, unplug the USB cable, if you do not get down, there may be reset or start the system in time cause your computer to crash.

In the BIOS main menu, select the function number [b], will start the system. If you start the development board Nand Flash mode is set to start, then the system will start automatically after power on.

2.1.2 one-click installation of WinCE System

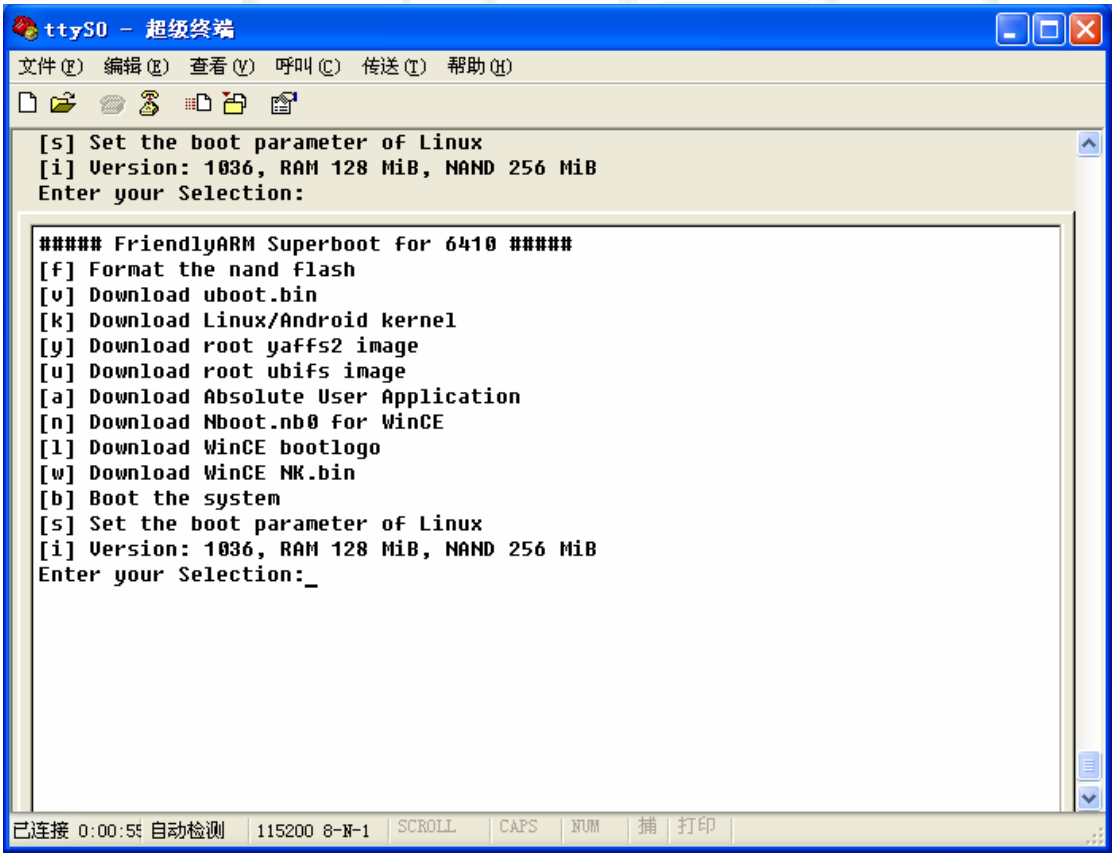
Use Superboot as SD card bootloader start the system, in the following situation can be downloaded into the USB mode:

a. SD card "images \ Pardazeshsabs.ini" configuration file does not exist or the file name is spelled wrong

2. When the configuration file exists, and "CheckOneButtons = Yes", restart the development board will not press any key to enter the USB download mode

At this time there will be a serial port to download the required function menu, while the development board LED1 will stop flashing.Menu as shown below (due to version update, there may be slightly different output, the actual date)

Note: This section assumes that you have installed the USB driver, and set the SD to start development board; for version update, the following screenshots may be slightly different from the actual, the actual subject



Description: Install the binary files needed WinCE6 in the CD "\ images \ WindowsCE6" directory, hereinafter referred to as WinCE6

Installation WinCE6 are the following steps: (1) formatting Nand Flash, corresponding to the command [f] (2) Install Bootloader, the corresponding commands [n]

(3) Installation BootLogo (bmp format), corresponding to the command [l] (4) Installation WindowsCE kernel image corresponding to the command [w]

Tip: Please connect the serial port, open the super terminal, electric start on the development board, to enter the BIOS features menu, below the 4.3 "LCD package, for example, describes in detail the installation steps:

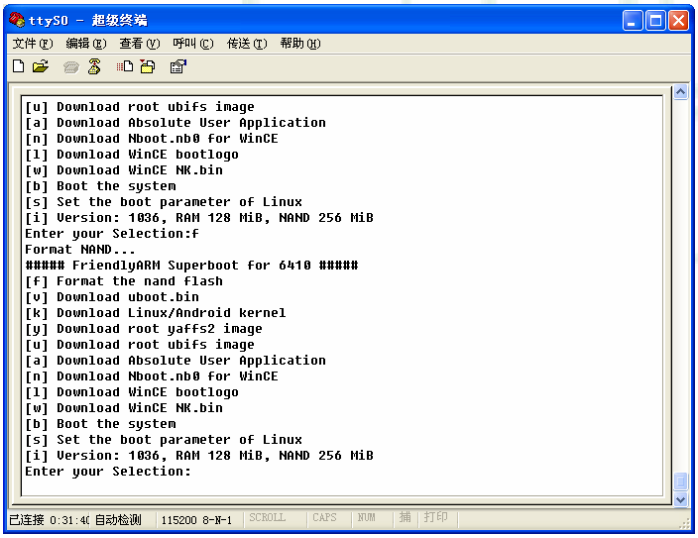
Step1: Format Nand Flash

Tip: Formatting will erase all data inside Nand Flash serial port connected, open the super terminal, electric start on the development board, to enter the BIOS features menu, select No. [f]

Nand Flash began to partition, as shown.

Note: Some of Nand Flash partition will be prompted to report a bad area, bad area because Supervivi will do testing records, so this will not affect the normal use of the board.

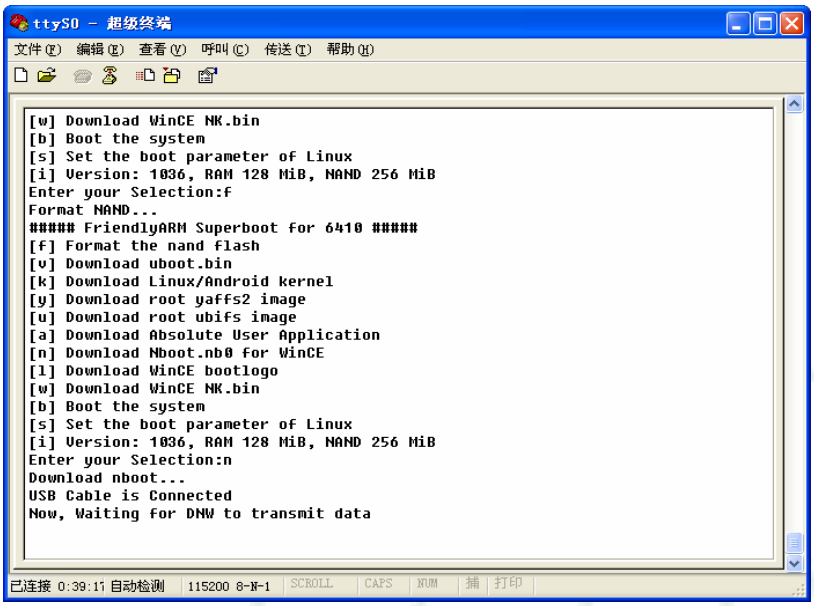
Ordinary Nand Flash does not guarantee that all sectors are good, if bad zone, the system software will detect that they do deal with, and will not affect the use of the entire software system.Ensure that areas completely bad another type Nand Flash, and order cycle is long, expensive and rarely used the general situation; other brands of Nand Flash is also similar.



Step2: Install Bootloader

In the WinCE system, we use the Bootloader for the Nboot, because Nboot does not automatically recognize the type of LCD, according to different models of LCD, and memory configurations of different capacities, different image file (source code of the corresponding configuration items). "WindowsCE Developer's Guide "describes how to modify the LCD type, and how to compile Nboot.

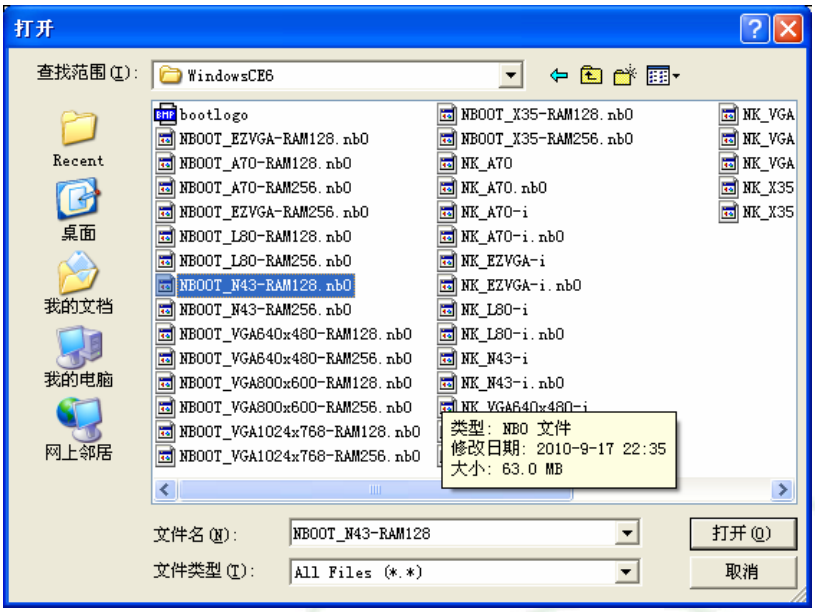
(1) Open DNW program, connect the USB cable, the title bar if the DNW tips [USB: OK], shows USB connection is successful, then under the menu function number [n] to start the download Nboot (this is referred to). Nb0



(2) Click "USB Port-> Transmit" option, and select Open File Nboot_n43-ram128.nb0 (the file is located in the CD \ images \ WindowsCE6 directory) to start the download. Because Nboot need to load the boot screen, so for different LCD models and memory capacity, different

Nboot programming documents, the following statement:

- 128M memory size for 6410 development board platform
  - NBOOT_N43-RAM128.nb0: suitable for NEC 4.3 "LCD, with the boot LOGO display and progress bar
  - NBOOT_A70-RAM128.nb0: suitable for group creation 7 "LCD, with the boot LOGO display and progress bar
  - NBOOT_VGA1024x768-RAM128.nb0: the output resolution of 1024x768 for the professional LCD2VGA Adapter (designed and manufactured by the company)
- 256M memory size for the 6410 development board platform
  - NBOOT_N43-RAM256.nb0: suitable for NEC 4.3 "LCD, with the boot LOGO display and progress bar
  - NBOOT_A70-RAM256.nb0: suitable for group creation 7 "LCD, with the boot LOGO display and progress bar
  - NBOOT_VGA1024x768-RAM256.nb0: the output resolution of 1024x768 for the professional LCD2VGA Adapter (designed and manufactured by the company)



(4) the download is complete, BIOS will automatically Nboot_n43-ram128.nb0 programmed into the Nand Flash 的 Block 0

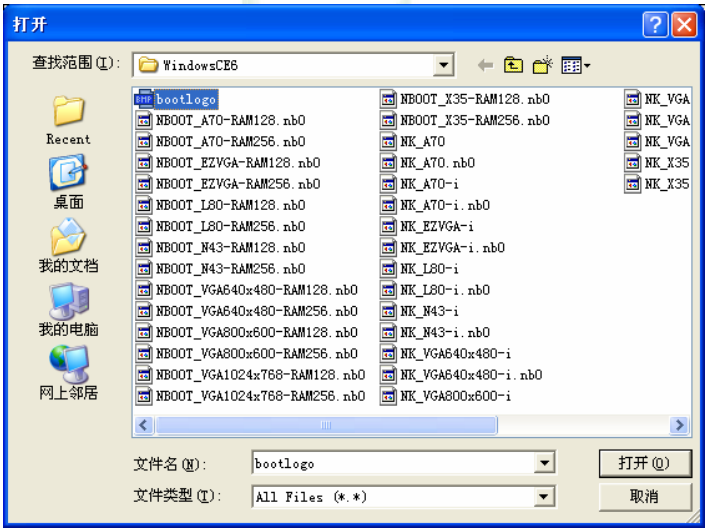
Step3: Download the program the BootLogo

Bootlogo boot after power is loaded by the Nboot displayed, it must be true color 24bit bmp picture (usually bmp

Are true color), and can not be greater than 2M, a resolution of 1024x768 24-bit true color images just as 2M.

(1) in the BIOS main menu, select the function number [l], start the download bmp picture as BootLogo (CD-ROM has been ready for a BootLogo.bmp picture)

(2) Click "USB Port-> Transmit / Restore" option and select the file bootlogo.bmp



(3) the download is complete, BIOS will be automatically programmed bootlogo.bmp to Nand Flash, and returns to the main menu.

Step3: Install the kernel image wince

(1) in the BIOS main menu, select the function number [w], start the download WINCE kernel

(2) Click "USB Port-> Transmit / Restore" option and select the appropriate kernel files open NK.bin (the file is located on the CD's "\ images \ WindowsCE6" directory) to start the download.

CD-ROM in the WindowsCE kernel file description:

NK_n43.bin - support for ARM comes with its own touch-screen controller for NEC4.3 "LCD, 480x272 resolution

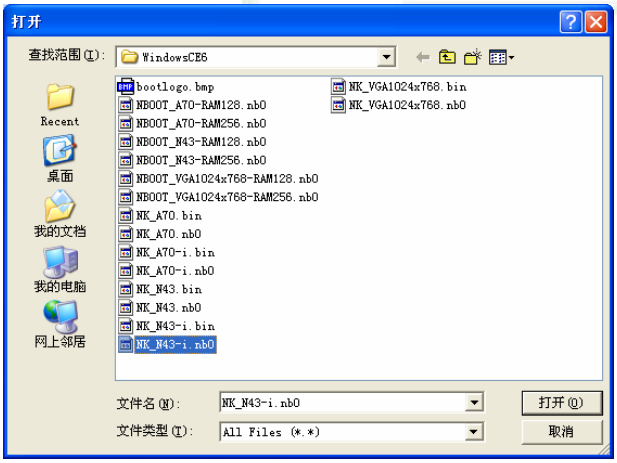
NK_a70.bin - support for ARM comes with its own touch-screen controller, suitable for 7-inch true color screen, a resolution of 80 0x480

NK_VGA1024x768.bin - support for ARM comes with its own touch-screen controller for the output resolution of 1024x768 VGA adapter module

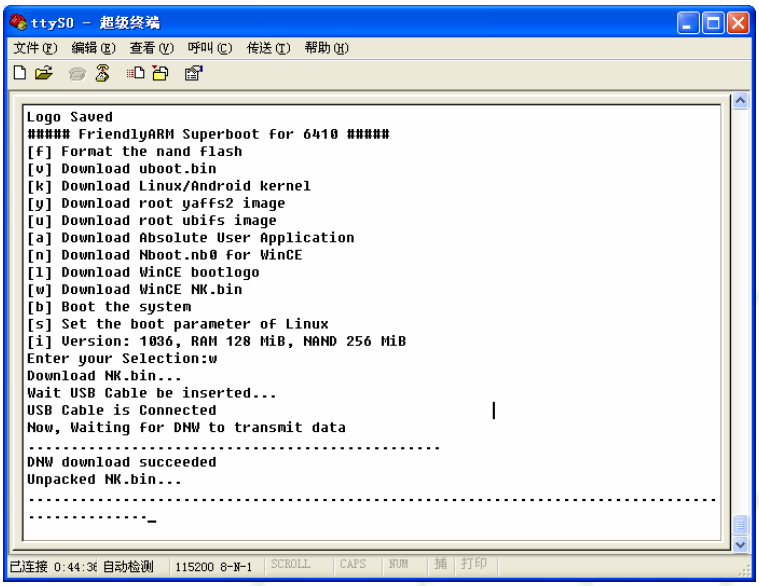
Board

NK_n43-i.bin - support for touch-line precision for NEC4.3 "LCD, 480x272 resolution

NK_a70-i.bin - Precision touch support line for 7-inch true color screen, a resolution of 800x480



The download is complete, BIOS will start formatting Nand Flash, and then click Create Partition programming WinCE kernel files, programming is complete, it will automatically start WinCE system, the whole process serial port information as shown below:



2.1.3 one-click install Android (yaffs2 or UBIFS format)

Note: This section assumes that you have installed the USB driver, and set the SD to start development board; for version update, the following screenshots may be slightly different from the actual, the actual subject.

Description: Install Android binaries required in the CD-ROM images / Android directory. Install the Android system the following main steps:

(1) Nand Flash format, corresponding to the command [f]

(2) Install Bootloader, corresponding to the command [v]

(3) install the kernel file, the corresponding command [k]

(4) installation of the target file system (yaffs2 or ubifs format), corresponding to the command [y] or [u]

Below the 4.3 "LCD package format to install the Android system UBIFS example, describes in detail the installation steps:

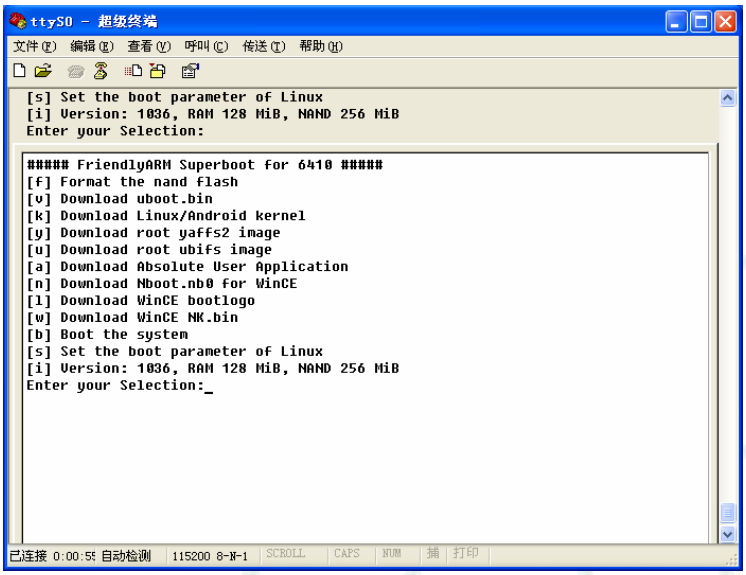
Step1: Format Nand Flash

Tip: Formatting will erase all data inside Nand Flash serial port connected, open the super terminal, electric start on the development board, to enter the BIOS features menu, select No. [f]

Nand Flash began to partition as shown.

Note: Some of Nand Flash partition will be prompted to report a bad area, bad area because Supervivi will do testing records, so this will not affect the normal use of the board.

Ordinary Nand Flash does not guarantee that all sectors are good, if bad zone, the system software will detect that they do deal with, and will not affect the use of the entire software system.Ensure that areas completely bad another type Nand Flash, and order cycle is long, expensive and rarely used the general situation; other brands of Nand Flash is also similar.



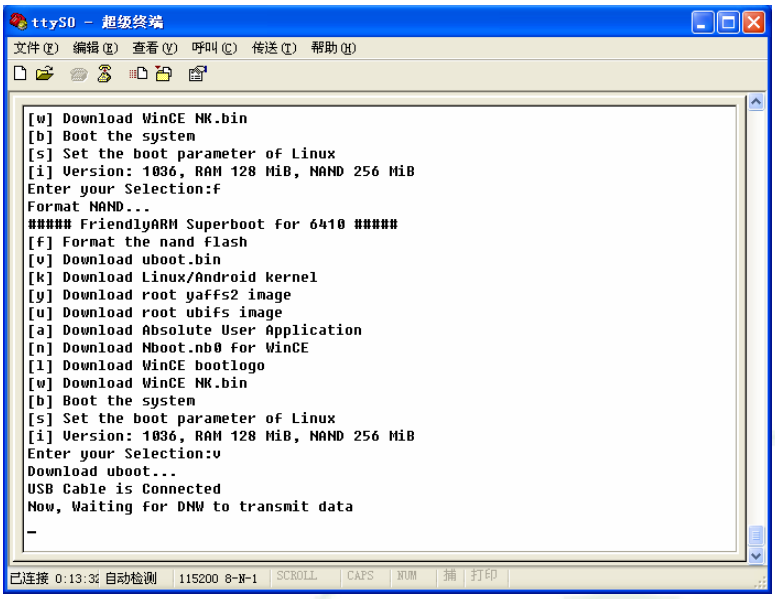
Step2: Install Bootloader

Depending on the development board hardware configuration, we offer a variety of programming u-boot file (source code of the corresponding configuration items):

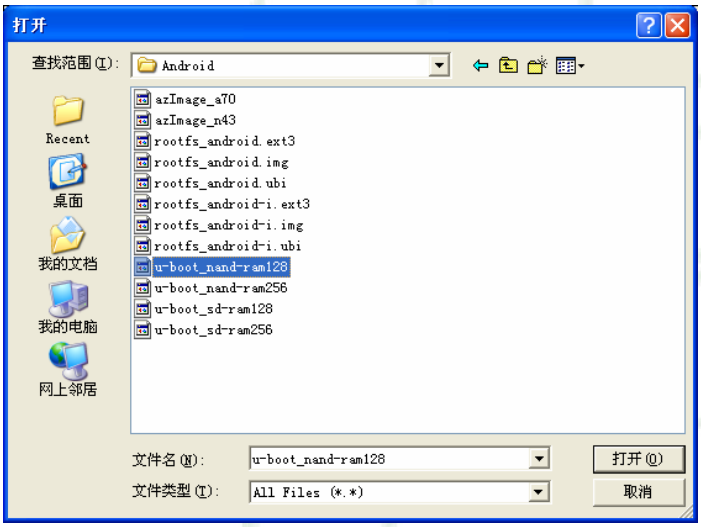
- u-boot_sd-ram128.bin: support SD boot for the configuration of the memory capacity of 128M
- u-boot_sd-ram256.bin: support SD boot for the configuration of the memory capacity of 256M
- u-boot_nand-ram128.bin: NAND boot support for the configuration of the memory capacity of 128M
- u-boot_nand-ram256.bin: NAND boot support for the configuration of the memory capacity of 256M

Bootloader installation specific file here named u-boot_nand-ram128.bin (hereinafter referred to as U-boot.bin), it will be downloaded to the Nand Flash programming of Block 0 position, which is the starting position; on U-boot configuration and compilation, etc., can refer to Chapter VI of this manual.

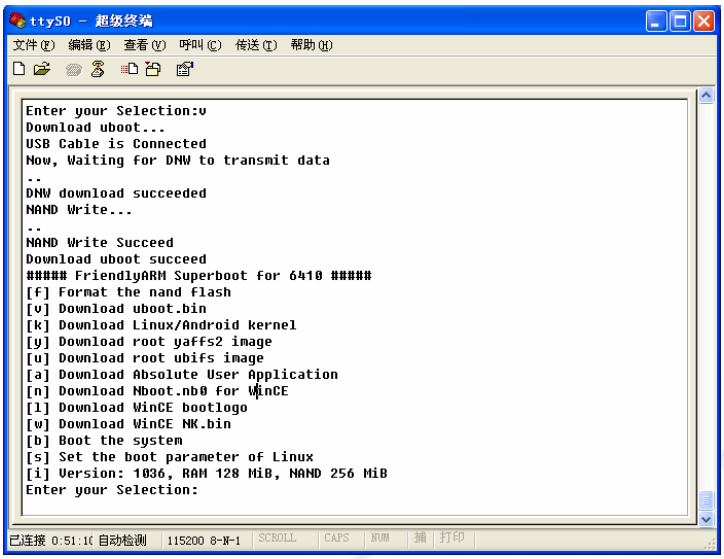
(1) Open DNW program, connect the USB cable, the title bar if the DNW tips [USB: OK], shows USB connection is successful, then under the menu function number [v] to start the download U-boot.bin



(2) Click "USB Port-> Transmit / Restore" option, and select Open File Superboot.bin (the file is located in the CD-ROM images / Android directory) to start the download.



(4) the download is complete, U-boot.bin will be automatically burned to write Nand Flash partition, and return to the main menu.

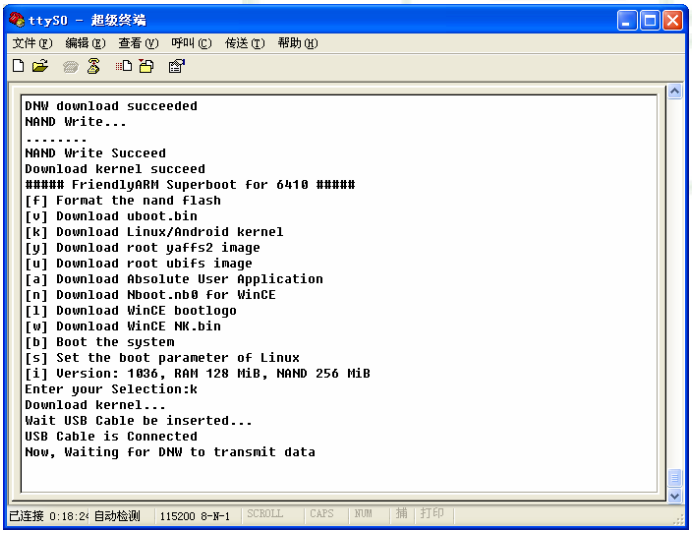


Step3: Install the Android kernel

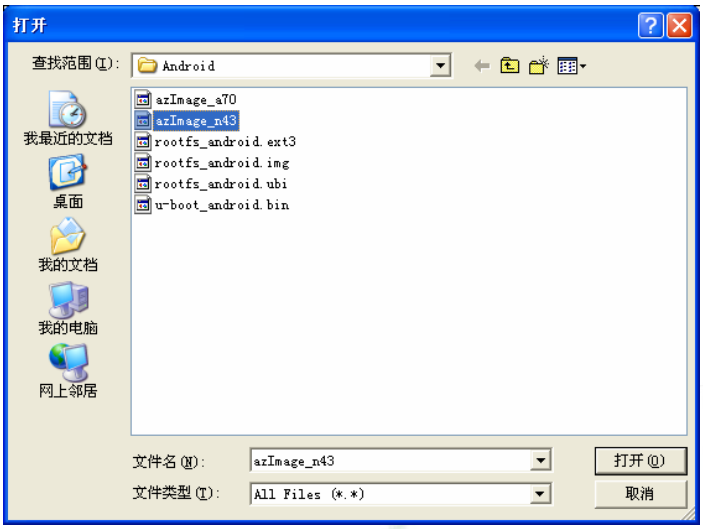
Packages of different LCD models, need to use a different kernel file, in a later step we put the Android kernel referred to as azImage, as for the CD kernel files (located in the images / Android Catalog) Description:

azImage_n43 - for NEC4.3 "LCD, a resolution of 480x272 azImage_a70 - for 7-inch true color screen, a resolution of 800x480

(1) in the BIOS main menu, select the function number [k], start the download kernel azImage



(2) Click "USB Port-> Transmit" option, and select the appropriate kernel files open azImage (the file is located in the CD-ROM images / Android directory) to start the download.



(3) the download is complete, BIOS will be automatically programmed to Nand Flash partition in the kernel, and return to the main menu.

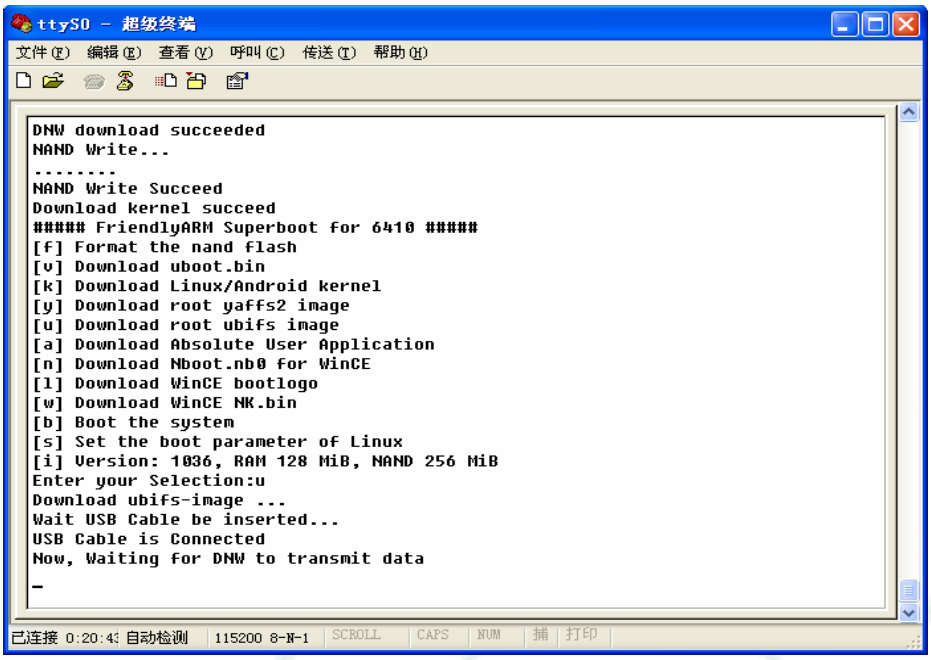
Step4: Install the target file system

Running on the SD card can support yaffs2 and ubifs Superboot two different file system image programming, according to the type of file system to suppress, we are making the following image file, according to their actual situation:

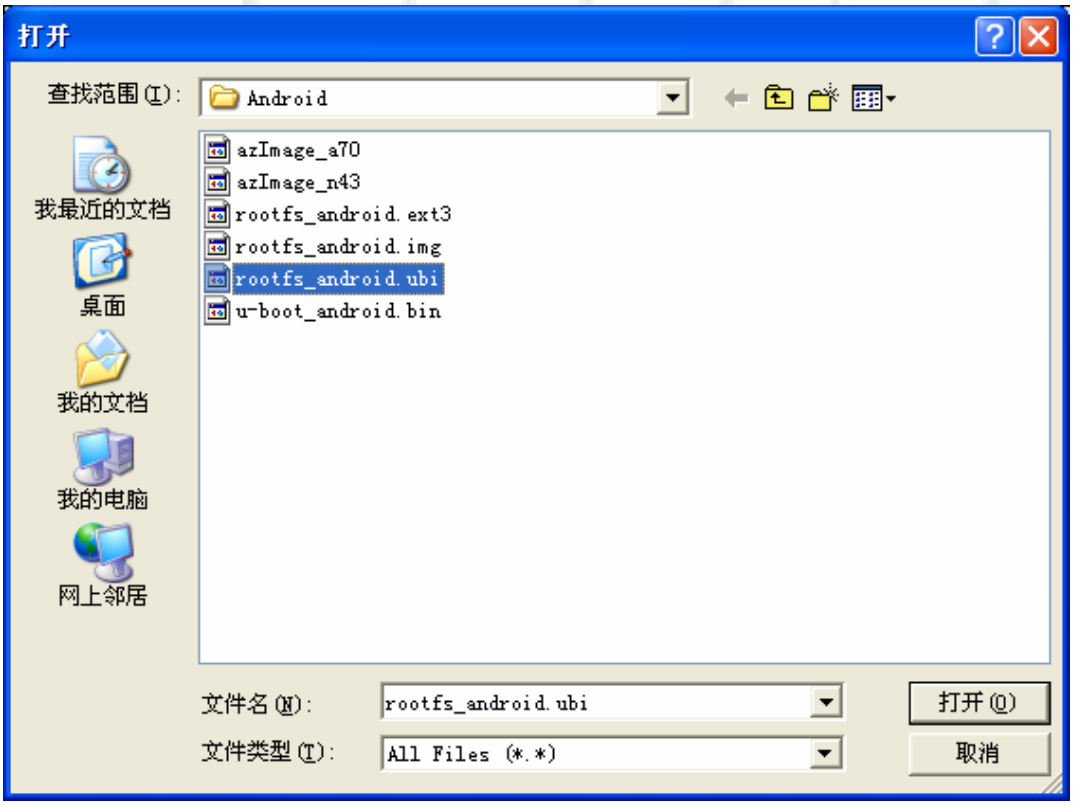
- rootfs_android.img: automatic identification and support for ARM itself is a touch screen interface, touch or first-line precision, using yaffs2 Suppression of the file system image format, you can use the [y] to Nand Flash programming commands used to run
- rootfs_android.ubi: automatic identification and support for ARM itself is a touch screen interface, touch or first-line precision, the use of UBIFS Suppression of the file system image format, you can use [u] to Nand Flash programming commands used to run
- rootfs_android.ext3: automatic identification and support for ARM itself is a touch screen interface, touch or first-line precision, using EXT3 Suppression of the file system image format can be directly copied to the run using the SD

Description: UBIFS file system has some compression because image files smaller than yaffs2.The following format to programming UBIFS file system image, for example, introduce the programming steps for programming yaffs2 format file system, as long as you change about the programming commands and file names on it, not repeat them.

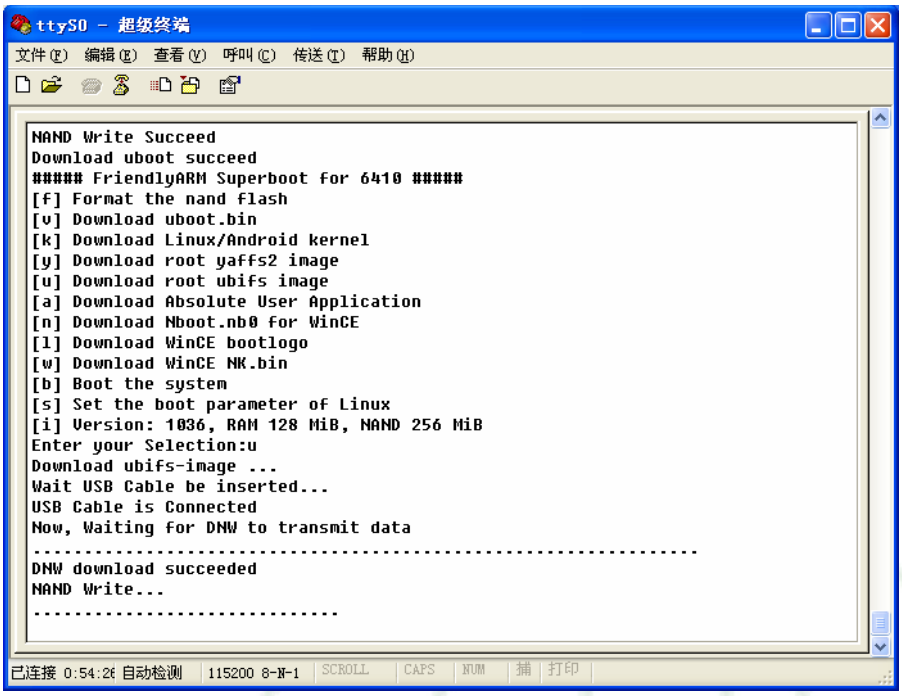
(1) in the BIOS main menu, select the function number [u], start the download files UBIFS root filesystem image



(2) Click "USB Port-> Transmit / Restore" option and select the appropriate file system image to open files rootfs_android-i.ubi (the file is located in the CD-ROM images / Android directory) to start the download.



(3) the download is complete, BIOS will be automatically programmed in the file system image to Nand Flash partition, while the kernel boot parameters have been modified, To start UBIFS system.



Note: the download is complete, unplug the USB cable, if you do not get down, there may be reset or start the system in time cause your computer to crash.

In the BIOS main menu, select the function number [b], will start the system. If you start the development board Nand Flash mode is set to start, then the system will start automatically after power on.

2.2 using the SD card off quickly install the system

Because the programming steps and USB download speed is very slow, we strongly recommend that you use the SD card offline programming. Through the SD card offline programming system, you must first use the SD-Flasher tool to Superboot programming to the SD (see Section 1.1), and the necessary system files to the SD card in the images directory can, in fact, as long as you put the disc in the images directory directly copied to the SD card on it, which already contains the installation files for each system, if you intend to produce their own programming files generated, you can use the replace method of the same name file, or change the configuration file in the appropriate file name.

Superboot ordinary SD card can support high-speed large-capacity SDHC cards start systems.Here we use ready-made CD-ROM file, for example, describes how to quickly program the various systems.

Note: Please put the CD in the images directory to have a good Superboot SD card programming, the following installation process does not connect the serial cable and USB, as long as an SD card and power on it.

2.2.1 Quick Install Linux (yaffs2 format)

Step1: Open the SD card in the images directory of the configuration file Pardazeshsabs.ini, install the Linux system to modify the relevant definitions:

Define the term	Modified (not all defined case sensitive)
Action	Install
OS	Linux
Linux-BootLoader	Linux/u-boot_nand-ram128.bin
Linux-Kernel	Linux/zImage_n43 (or compile their own kernel image)
Linux-CommandLine	root = / dev/mtdblock2 rootfstype = yaffs2 init = / linuxrc console = ttySAC0, 115200
Linux-RootFs-InstallImage	linux/rootfs_qtopia_qt4.img
Note: special attention to the red part not wrong; zImage back suffix represent different types of LCD, following are images / Linux kernel image file directory, description of each: zImage_x35 - for Sony3.5 "LCD, a resolution of 240x320 zImage_n43 - for NEC4.3" LCD, a resolution of 480x272 zImage_a70 - for 7-inch true color screen, a resolution of 800x480 zImage_L80 - for Sharp 8 "(or compatible) LCD, 640x480 resolution zImage_VGA1024x768 - for resolution of 1024x768 VGA output module adapter plate zImage_VGA800x600 - for the VGA resolution of 800x600 output module adapter plate zImage_VGA640x480 - for the VGA resolution of 640x480 output module adapter plate zImage_EZVGA800x600 - for easy VGA adapter plate, the output resolution of 800x600	

Step2: the development board switch S2 is set to "SDBOOT", and insert the SD card

Step3: is powered on, then you can hear on the development board buzzer "drop" is heard, while board LED4

Start light and flash

Step4: listening stopwatch beat sound can be noted LED3, 2,1 one by one began to flicker on, until you hear the buzzer, "bit" or two, all full-frame LED lights, then stop jumping Happy Valley, programming is complete, the system has been illustrated.

2.2.2 Quick Install Linux (UBIFS format)

Step1: Open the SD card in the images directory of the configuration file Pardazeshsabs.ini, install the Linux system to modify the relevant definitions:

Define the term	Modified (not all defined case sensitive)
Action	Install
OS	Linux
Linux-BootLoader	Linux/u-boot_nand-ram128.bin
Linux-Kernel	Linux/zImage_n43 (or compile their own kernel image)
Linux-CommandLine	root = ubi0: Pardazeshsabs-root ubi.mtd = 2 rootfstype = ubifs init = / linuxrc console = ttySAC0, 115200
Linux-RootFs-InstallImage	linux/rootfs_qtopia_qt4-i.ubi
Note: special attention to the red part not wrong; zImage back suffix represent different types of LCD, following are images / Linux kernel image file directory, description of each: zImage_x35 - for Sony 3.5 "LCD, a resolution of 240x320 zImage_n43 - for NEC4.3" LCD, a resolution of 480x272 zImage_a70 - for 7-inch true color screen, a resolution of 800x480 zImage_L80 - for Sharp 8 "(or compatible) LCD, 640x480 resolution zImage_VGA1024x768 - for resolution of 1024x768 VGA output module adapter plate	

zImage_VGA800x600 - for the VGA resolution of 800x600 output module adapter plate zImage_VGA640x480 - for the VGA resolution of 640x480 output module adapter plate zImage_EZVGA800x600 - for easy VGA adapter plate, the output resolution of 800x600

Step2: the development board switch S2 is set to "SDBOOT", and insert the SD card

Step3: is powered on, then you can hear on the development board buzzer "drop" is heard, while board LED4

Start light and flash

Step4: listening stopwatch beat sound can be noted LED3, 2,1 one by one began to flicker on, until you hear the buzzer, "bit" or two, all full-frame LED lights, then stop jumping Happy Valley, programming is complete, the system has been illustrated.

2.2.3 Quick Installation WindowsCE6

Note: The following steps to install the 4.3 "LCD package system as an example

Step1: Open the SD card in the images directory configuration file Pardazeshsabs.ini, modify the installation WindowsCE

System-related definitions:

Define the term	Modified (all defined case-sensitive)
Action	Install
OS	WindowsCE6 (also for "CE6" or "Wince6")
WindowsCE6-Bootloader	WindowsCE6 \ nboot_n43-ram128.nb0
WindowsCE6-BootLogo	WindowsCE6 \ bootlogo.bmp (or custom bmp file)
WindowsCE6-InstallImage	WindowsCE6 \ NK_N43-i.bin (or compile their own kernel image)
Description: The programming file suffix represent different types of LCD, more detailed documentation described in "CD \ images \ WindowsCE6 \" directory documentation	

Step2: Switch S2 to the development board is set to "SDBOOT", and insert the SD card Step3: is powered on, then you can hear on the development board buzzer "drop" is heard, while board LED4 Start light and flash

Step4: listening stopwatch beat sound can be noted LED3, 2,1 one by one began to flicker on, until you hear the buzzer, "bit" or two, all full-frame LED lights, then stop jumping Happy Valley, programming is complete, the system has been illustrated.

2.2.4 Quick Install Android (yaffs format)

Step1: Open the SD card in the images directory of the configuration file Pardazeshsabs.ini, modify the install Android System-related definitions:

Define the term	Modified (not all defined case sensitive)
Action	Install
OS	Android
Android-BootLoader	Android/u-boot_nand-ram128.bin
Android-Kernel	Android/azImage_n43 (or azImage_a70 or compile their own kernel image)

Android-CommandLine	root = / dev/mtdblock2 rootfstype = yaffs2 init = / linuxrc console = ttySAC0, 115200
Android-RootFs-InstallImage	Android / rootfs_android.img
Description: azImage behind suffix represent different types of LCD, please pay special attention not to mistake the red part of the	

Step2: Switch S2 to the development board is set to "SDBOOT", and insert the SD card Step3: power is turned on, then you can hear development board buzzer "drop" is heard, while board LED4 Start light and flash

Step4: listening stopwatch beat sound can be noted LED3, 2,1 one by one began to flicker on, until you hear the buzzer, "bit" or two, all full-frame LED lights, then stop jumping Happy Valley, programming is complete, the system has been illustrated.

2.2.5 Quick Install Android (UBIFS format)

Step1: Open the SD card in the images directory of the configuration file Pardazeshsabs.ini, modify the install Android System-related definitions:

Define the term	Modified (not all defined case sensitive)
Action	Install
OS	Android
Android-BootLoader	Android/u-boot_nand-ram128.bin
Android-Kernel	Android/azImage_n43 (or compile their own kernel image)
Android-CommandLine	root = ubi0: Pardazeshsabs-root ubi.mtd = 2 rootfstype = ubifs init = / linuxrc console = ttySAC0, 115200
Android-RootFs-InstallImage	Android / rootfs_android.ubi
Note: special attention to the red part not wrong; azImage behind suffix represent different types of LCD, a more detailed explanation see "CD \ images \ Android" directory documentation.	

Step2: the development board switch S2 is set to "SDBOOT", and insert the SD card

Step3: is powered on, then you can hear on the development board buzzer "drop" is heard, while board LED4

Start light and flash

Step4: listening stopwatch beat sound can be noted LED3, 2,1 one by one began to flicker on, until you hear the buzzer, "bit" or two, all full-frame LED lights, then stop jumping Happy Valley, programming is complete, the system has been illustrated.

2.2.6 Quick Install Ubuntu (UBIFS format)

Note: Installing Ubuntu takes up more than 500M Flash memory space, so you must use a capacity of 1GB Nand Flash development board platform.

Step1: Open the SD card in the images directory of the configuration file Pardazeshsabs.ini, modify the definition of the relevant installed Ubuntu system:

Define the term	Modified (not all defined case sensitive)

Action	Install
OS	Ubuntu
Ubuntu-BootLoader	Ubuntu/u-boot_nand-ram128.bin
Ubuntu-Kernel	Ubuntu/uzImage_n43 (or compile their own kernel image)
Ubuntu-CommandLine	root = ubi0: Pardazeshsabs-root ubi.mtd = 2 rootfstype = ubifs init = / linuxrc console = ttySAC0, 115200
Ubuntu-RootFs-InstallImage	Ubuntu / rootfs_ ubuntu.ubi
Note: special attention to the red part not wrong; uzImage behind suffix represent different types of LCD, a more detailed explanation see "CD \ images \ Ubuntu" directory of the documentation.	

Step2: the development board switch S2 is set to "SDBOOT", and insert the SD card

Step3: is powered on, then you can hear on the development board buzzer "drop" is heard, while board LED4

Start light and flash

Step4: listening stopwatch beat sound can be noted LED3, 2,1 one by one began to flicker on, until you hear the buzzer, "bit" or two, all full-frame LED lights, then stop jumping Happy Valley, programming is complete, the system has been illustrated.

2.3 directly from the SD card to run the various systems

To run the system off-line through the SD card, you must first use the SD-Flasher tool to Superboot programming to the SD (see Section 1.1), and to the necessary system files to the SD card, the images directory in the can, in fact, as long as the CD-ROM in your images directory directly copied to the SD card on it, which already contains all the operating system files, if you intend to run their own production of the generated files, you can use the replace method of the same name file, or change the configuration file in the appropriate file name.

Superboot ordinary SD card can support high-speed large-capacity SDHC cards start systems.Here we use ready-made CD-ROM file, for example, describes how to run quickly through the SD card each system.

Note: Please put the CD in the images directory to have a good Superboot SD card programming, the following installation process does not connect the serial cable and USB, as long as an SD card and power on it.

The following steps to 4.3 "LCD package, for example.

2.3.1 SD card directly to the Linux operating

Step1: Open the SD card in the images directory configuration file Pardazeshsabs.ini, running Linux system to modify the relevant definitions:

Define the term	Modified (not all defined case sensitive)
Action	Run
OS	Linux
Linux-Kernel	Linux/zImage_n43 (or compile their own kernel image) Linux-

RootFs-RunImage Linux/rootfs_qtopia_qt4.ext3
Note: special attention to the red part not wrong; at this time do not care about the CommandLine parameter; zImage back suffix represent different types of LCD, a more detailed explanation see "CD \ images \ Linux" directory of the documentation.

Step2: the development board switch S2 is set to "SDBOOT", and insert the SD card, power-on boot.

2.3.2 SD card directly running WindowsCE

Step1: Open the SD card in the images directory configuration file Pardazeshsabs.ini, modified to run WinCE6

System-related definitions:

Define the term	Modified (not all defined case sensitive)
Action	Run
OS	WindowsCE6 (also for "CE6" or "WinCE6")
WindowsCE6-InstallImage	WindowsCE6 \ NK_n43-i.bin (or compile their own kernel image)
Description: run directly from the SD card WinCE6 not need to specify Bootloader, not boot from the SD card now support boot screen; NK suffix represent different types of LCD, a more detailed explanation see "CD \ images \ WindowsCE6" directory description file, in addition, the directory there is a "en" directory, which is stored inside the English version of the programming documents.	

Step2: the development board switch S2 is set to "SDBOOT", and insert the SD card, power-on boot.

2.3.3 SD card directly to run the Android

Note: because memory limitations, the current configuration with 128M DDR RAM boards, directly from the SD card ext3 format of the Android operating system, generally can not be successfully implemented, need to use the 256M DDR RAM configuration development board is no such problem, so proposed to be programmed into the Nand Flash in Android running.

Step1: Open the SD card in the images directory of the configuration file Pardazeshsabs.ini, modified to run Android System-related definitions:

Define the term	Modified (not all defined case sensitive)
Action	Run
OS	Android
Android-Kernel kernel image)	Android/azImage_n43 (or azImage_a70 or compile their own
Android-RootFs-RunImage	Android/rootfs_android.ext3
Note: special attention to the red part not wrong; at this time do not care about the CommandLine parameter; azImage behind suffix represent different types of LCD, a more detailed explanation see "CD \ images \ Android" directory documentation	

Step2: the development board switch S2 is set to "SDBOOT", and insert the SD card, power-on boot.

2.3.4 SD card directly running Ubuntu

Description: Use the 256M DDR RAM memory configuration development board, running Ubuntu from the SD card speed will be faster.

Step1: Open the SD card in the images directory of the configuration file Pardazeshsabs.ini, modify system running Ubuntu System related definitions:

Define the term	Modified (not all defined case sensitive)
Action	Run
OS	Ubuntu
Ubuntu-Kernel	Ubuntu/uzImage_n43 (or compile their own kernel image)
Ubuntu-RootFs-RunImage U	buntu/rootfs_ubuntu.ext3
Note: special attention to the red part not wrong; at this time do not care about the CommandLine parameter; uzImage behind suffix represent different types of LCD, a more detailed explanation see "CD \ images \ Ubuntu" directory documentation	

Step2: the development board switch S2 is set to "SDBOOT", and insert the SD card, power-on boot.

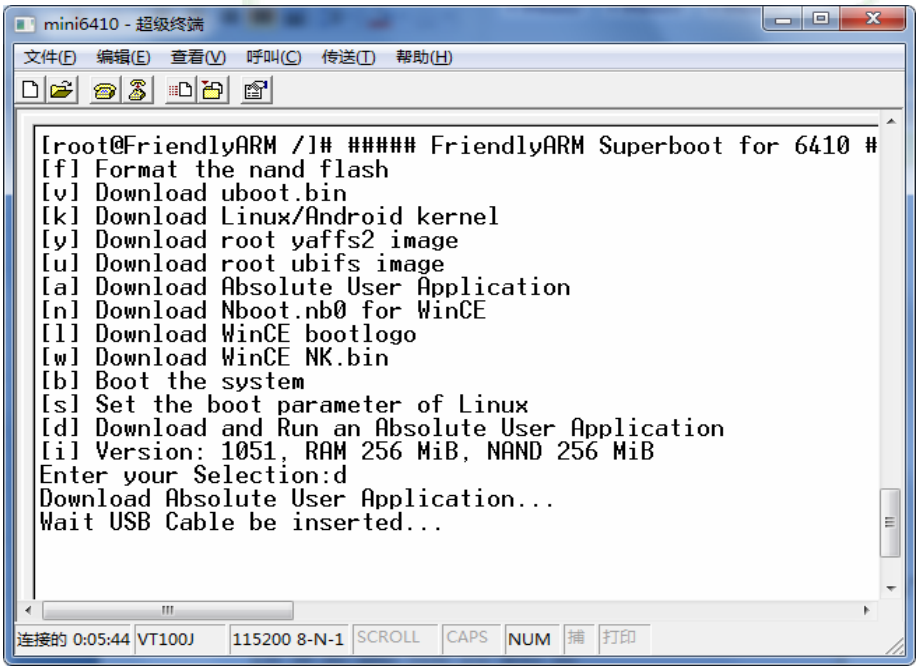
2.4 USB to download and run the bare metal using the program

Note: This section assumes that you have installed the USB driver, and set the SD to start development board; for version update, the following screenshots may be slightly different from the actual, the actual subject.

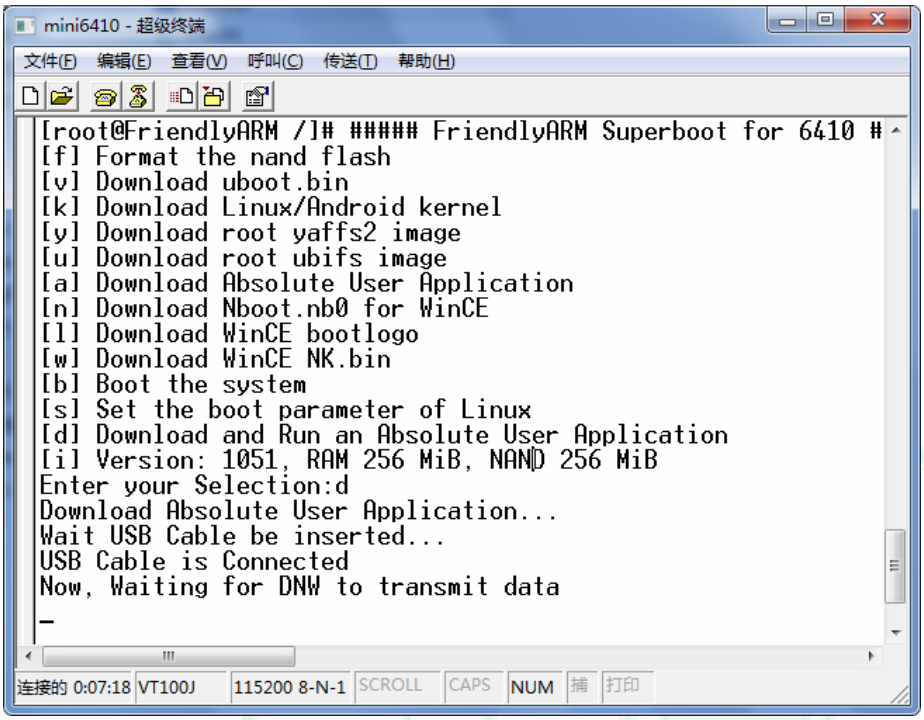
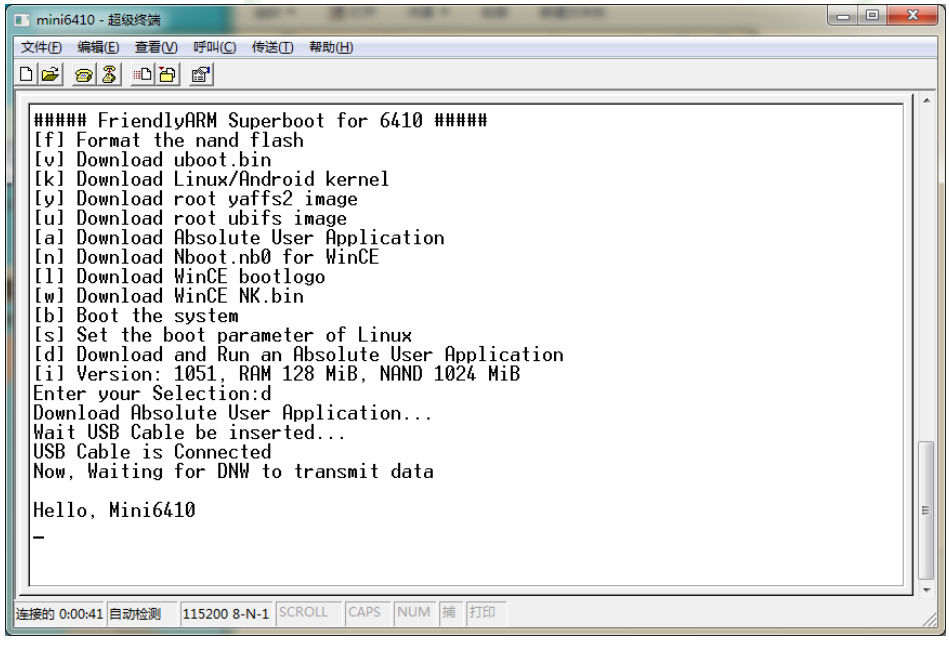
We are on CD-ROM program provides a bare-metal example, in the CD-ROM A "bare-metal program" directory, which demo.bin an executable program, demo.zip is the program's source code, the sample program is running in the terminal print "Hello, S3C6410-TFA" and a pattern of flashing LED lights.

This section to download the CD demo.bin illustrate how the program via USB download to S3C6410-TFAbare metal Running on the steps, first from the CD-ROM copy demo.bin back to the right place.

Connect the serial port, open the super terminal, electric start on the development board, to enter the BIOS features menu, select No. [d] Start Download & Run function, the terminal will display "Download Absolute User Application ...", if the USB cable is not plugged on, will prompt "Wait USB Cable be inserted ...", as shown below:



Plug in the USB cable, the screen will display "Now, Waiting for DNW to transmit data", then S3C6410-TFASide processing wait state, waiting for the PC will transfer over bare-metal process, the effect is as shown below:



DNW software on the PC start, click on the DNW software "USB Port" under the "Transmit / Restore" menu, File Open dialog box will pop up in the dialog box, locate the directory where you stored demo.bin file, then select demo.bin open, demo.bin will be transferred to S3C6410-TFAend, and loaded into the RAM of the starting position (0x50000000) execution, run the effect is as follows: